Think Academy

Jolly Math

Grade 1

Think Academy US ONLINE

Pre-K & Lower Elementary Math Program

Think Academy Pre-K and Lower Elementary Math Program is designed for ages **3–8**, offering a structured, year-round learning path based on North American standards. It builds **seven core abilities**—calculation, logic, spatial sense, measurement and data, creativity, expression, and critical thinking—to form a solid foundation for future STEM success.

The long-term program includes Honors and Challenge tracks tailored to each child' s math level. **Both follow the same framework** to strengthen **thinking skills** from PreK–G2. The Challenge track **adds competition training** for a smooth transition to upper-elementary math contests.

PreK: The Pre-K course has no level divisions. Before entering Kindergarten, students take placement assessments; combined with classroom performance and learning goals, this determines the most suitable course level.

Honors: Focuses on developing seven core abilities, fostering interest and confidence in math, and building potential for advanced study and future competitions.

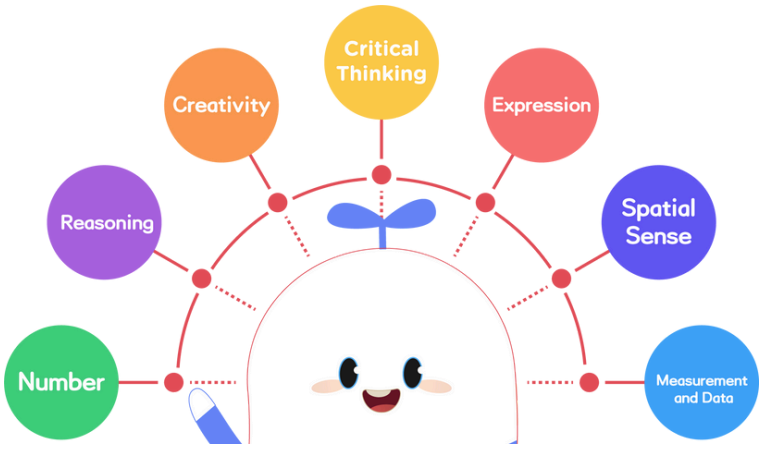
Challenge: Builds on the Honors curriculum with competition-focused enrichment aligned to the Math Kangaroo, encouraging children to explore and achieve in math contests from an early age.

Early childhood learning planning				
Tracks	Pre-K	K	G1	G2
Honors	Pre-K Think Ability	K Honors	G1 Honors	G2 Honors
Challenge		K Challenge	G1 Challenge	G2 Challenge
Competition				G2 Pre-ACE

What Are the Seven Core Abilities?

3 Comprehensive Output Skills – Apply What You Learn

4 Core Math Skills – Spark Interest in Learning



- Ages 3–8 are the key period for developing children' s thinking skills
- Through scenario-based learning, we protect curiosity
- Enhance the joy of exploration, and help children build and strengthen their thinking frameworks
- Cultivating active thinking and lifelong learning ability

PreK-G2	G3-G5	G6-G8	G9-G12
Creativity	Complex Problem-Solving Ability Accelerated School Progress Competition Enrichment		
Critical Thinking			
Expression			
Reasoning	Word Problems		
Spatial Sense	Elementary Geometry	Introductory Algebra	Advanced Functions
Measurement and Data	Statistics and Graphs	Plane Geometry	High School Geometry
Number	Calculation and Smart Strategies	Science Courses	AP Science

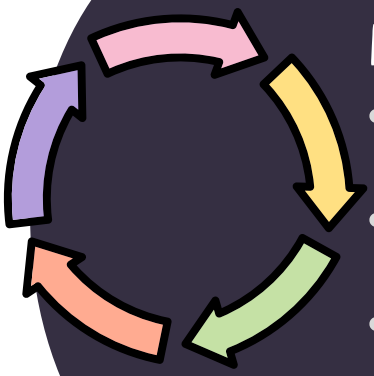
Think Academy US Online

Course Highlights

Clear Structure, Worry-Free for Parents

Personalized Learning Plans with Full Progress Tracking

- **Before Enrollment:** Teachers create **personalized study plans** based on each student' s goals and ability
- **During Learning:** Teachers give **regular feedback and targeted advice**, helping parents track progress
- **Mid-Term & Final Evaluations**: **Parent meetings** and updated study plans ensure steady improvement



Weekly Learning Cycle to Ensure Steady Progress

- **Pre-Class Preparation: 15-minute preview** to review key concepts and prepare for new lessons
- **Homework: Assigned after each class**, with teacher feedback shared with parents
- **Office Hour: Free live sessions** to review and clarify difficult problems
- **Homework Review Videos:** Each homework question includes a **detailed video explanation** for easy review

Year-Round Learning Support

- **Year-round Parent App service** providing fast responses
- Through the Parent App, parents get **direct contact with teachers** for efficient communication and real-time progress updates
- Instant online homework help for **timely learning support**

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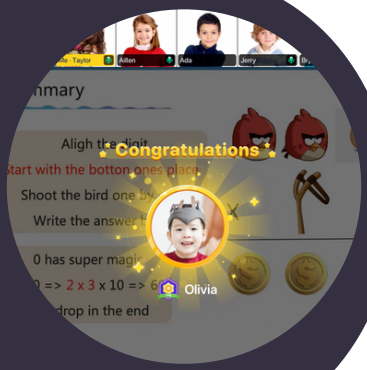
Course Highlights

Happy Learning, Better Results

Thoughtfully Crafted Lessons Inspire a Love for Math

- **Interactive games and scenario-based teaching** make math fun and engaging
- **Gold coin reward system** lets students exchange coins for prizes, motivating them to complete learning tasks actively



Self-Developed Learning App Enhances Every Online Class

- **Think Academy learning app** enhances in-class interaction with hand-raising, polls, and group activities —**keeping students engaged every three minutes**
- Teachers **track progress in real time** for an effective learning experience

A Sense of Achievement Builds Intrinsic Motivation

- Students learn efficiently in class and get **full after-class support** with detailed homework videos and free weekly Office Hours.
- Students **gain higher grades, faster progress**. They are naturally motivated to put more effort in STEM learning and become **confident math learners**

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Basic Math

Numbers and Operations

Addition and Subtraction within 20

1 Calculate:

17−3=

20−2=

13−11=

19−0=

19−12=

19−2=

17−8=

17−1=

18−4=

15−3=

18−3=

2 Calculate:

(1) $11 - 9 =$ _____ $19 - 7 =$ _____

(2) $5 - 4 =$ _____ $10 - 9 =$ _____

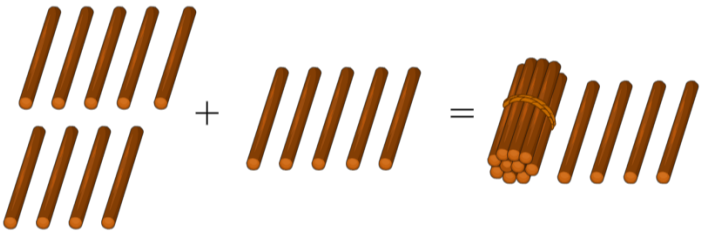
(3) $13 - 8 =$ _____ $14 - 2 =$ _____

(4) $13 - 7 =$ _____ $16 - 6 =$ _____

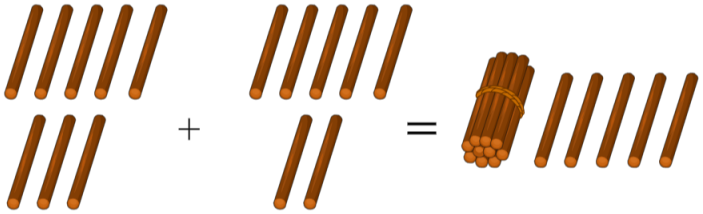
(5) $8 - 3 =$ _____ $10 - 8 =$ _____

(6) $19 - 3 =$ _____ $19 - 6 =$ _____

3 Observe the sticks and calculate.



$9 + 5 =$



$8 + 7 =$

4 Calculate:

(1) $19 - 4 =$ _____ $18 - 5 =$ _____

(2) $19 - 7 =$ _____ $16 - 5 =$ _____

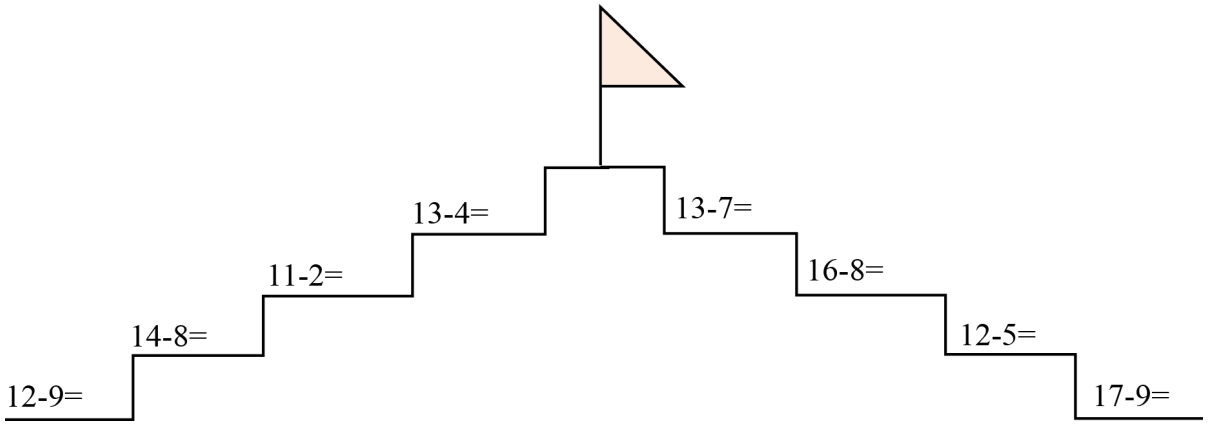
(3) $16 - 4 =$ _____ $18 - 2 =$ _____

(4) 17 – 4 = _____ 20 – 5 = _____

(5) 19 – 8 = _____ 18 – 6 = _____

(6) 17 – 7 = _____ 17 – 3 = _____

5 Calculate:



6 Calculate:

6 + 9 = _____ 9 + 7 = _____ 10 + 9 = _____

15 + 3 = _____ 8 + 8 = _____ 7 + 4 = _____

10 + 6 = _____ 16 + 4 = _____ 6 + 7 = _____

8 + 4 = _____ 5 + 8 = _____ 7 + 6 = _____

12 + 3 = _____ 9 + 4 = _____ 16 + 2 = _____

19 + 8 = _____ 15 + 6 = _____ 13 + 9 = _____

7 Calculate:

$3 + 4 =$ _____

$5 + 1 =$ _____

$19 - 7 =$ _____

$10 - 2 =$ _____

8 Calculate:

(1) $16 - 9 =$ _____

$12 - 7 =$ _____

(2) $11 - 4 =$ _____

$12 - 9 =$ _____

(3) $9 - 8 =$ _____

$16 - 8 =$ _____

(4) $15 - 7 =$ _____

$13 - 6 =$ _____

(5) $8 - 8 =$ _____

$13 - 8 =$ _____

(6) $9 - 3 =$ _____

$10 - 6 =$ _____

9 Calculate:

(1) $14 - 4 =$ _____ $13 - 6 =$ _____

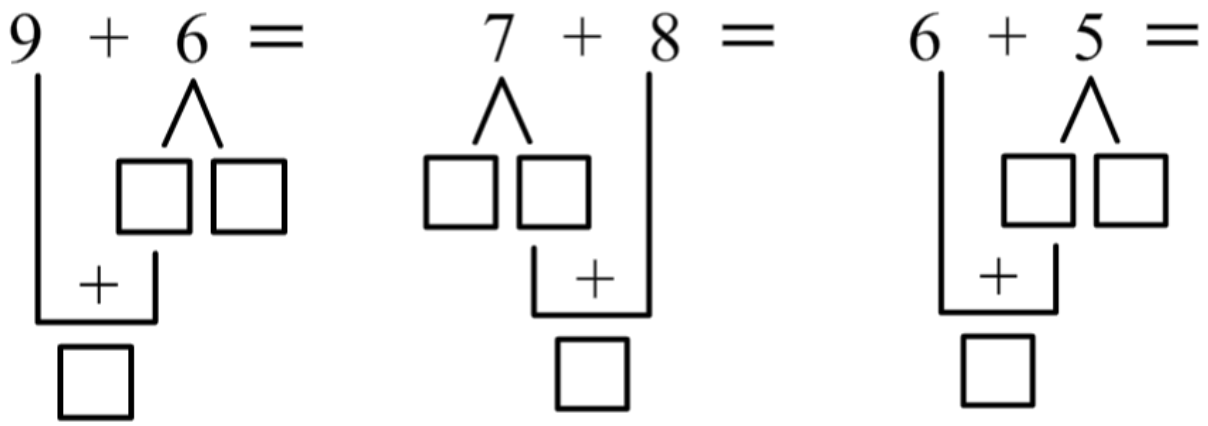
(2) $14 - 8 =$ _____ $11 - 6 =$ _____

(3) $5 - 4 =$ _____ $12 - 6 =$ _____

(4) $17 - 9 =$ _____ $14 - 7 =$ _____

(5) $12 - 10 =$ _____ $7 - 2 =$ _____

10 Calculate:



11 Calculate:

3 + 6 = _____

2 + 5 = _____

18 – 7 = _____

13 – 4 = _____

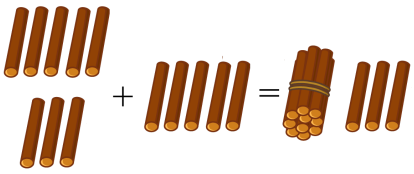
12 Fill in the blanks and calculate:

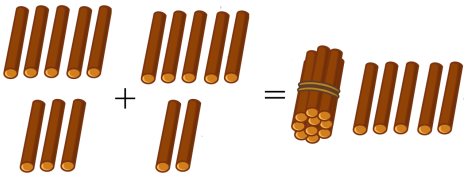
15 − 7 =

13 − 9 =

14 − 7 =

13 Calculate:





8 + 5 =

8 + 7 =

14 Fill in the boxes:

$12 - 9 = \square$

$\square$ $\square$

$\square$

$16 - 9 = \square$

$\square$ $\square$

$\square$

15 Calculate:

(1) $5 + 3 =$ _____ $7 + 9 =$ _____

(2) $8 + 6 =$ _____ $3 + 2 =$ _____

(3) $9 + 9 =$ _____ $14 + 4 =$ _____

(4) $4 + 8 =$ _____ $3 + 9 =$ _____

(5) $3 + 7 =$ _____ $6 + 9 =$ _____

16 Calculate:

$9 - 6 =$ _____ . $9 - 7 =$ _____ . $7 - 6 =$ _____ .

$9 - 5 =$ _____ . $8 - 5 =$ _____ . $5 - 4 =$ _____ .

$8 - 6 =$ _____ . $8 - 3 =$ _____ . $5 - 1 =$ _____ .

17 Calculate:

(1) $16 - 4 =$ _____ $13 - 5 =$ _____

(2) $9 - 4 =$ _____ $8 - 2 =$ _____

18 Calculate:

$6 + 5 =$ _____

$4 + 5 =$ _____

$16 - 8 =$ _____

$14 - 3 =$ _____

19 Calculate:

$1 + 2 =$ _____

$1 + 3 =$ _____

$2 + 3 =$ _____

$1 + 3 =$ _____

$2 + 4 =$ _____

$1 + 4 =$ _____

20 Calculate:

15 – 6 =　　12 – 7 =　　19 – 7 =

12 – 8 =　　15 – 8 =　　13 – 7 =

12 – 9 =　　17 – 11 =　　14 – 7 =

18 – 9 =　　15 – 7 =　　15 – 9 =

13 – 9 =　　16 – 12 =　　16 – 9 =

16 – 5 =　　17 – 8 =　　14 – 5 =

21 Calculate:

$5 + 9 =$ _____

$3 + 4 =$ _____

$15 - 7 =$ _____

$16 - 3 =$ _____

22 Calculate:

(1) $2 + 7 =$ _____

$3 + 9 =$ _____

(2) $13 + 4 =$ _____

$9 + 4 =$ _____

(3) $8 + 8 =$ _____

$2 + 12 =$ _____

(4) $11 + 7 =$ _____

$13 + 3 =$ _____

(5) $15 + 2 =$ _____

$8 + 6 =$ _____

23 Calculate:

(1) $8 + 12 =$ _____ $4 + 11 =$ _____

(2) $14 + 3 =$ _____ $16 + 1 =$ _____

(3) $16 + 4 =$ _____ $15 + 3 =$ _____

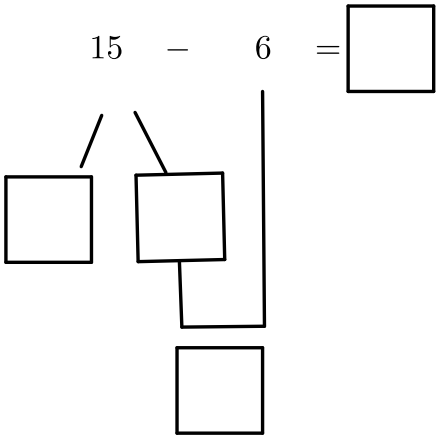
(4) $9 + 7 =$ _____ $5 + 4 =$ _____

(5) $9 + 4 =$ _____ $12 + 4 =$ _____

(6) $12 + 6 =$ _____ $11 + 6 =$ _____

24 Fill in the blanks.

(1)



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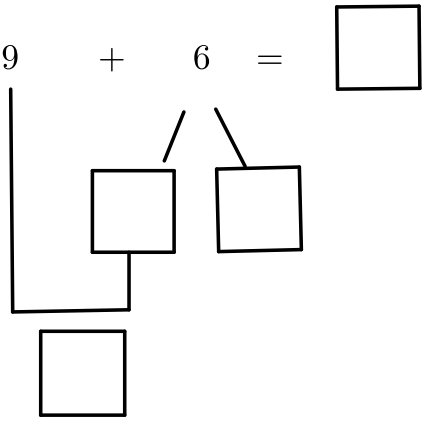


25 Calculate:

$2 + 6 =$ _____

$3 + 7 =$ _____

$16 - 7 =$ _____

$17 - 4 =$ _____

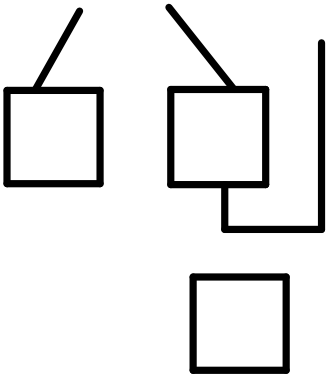
26 Calculate:

$2 + 7 =$ _____ $5 + 4 =$ _____ $1 + 7 =$ _____

$8 + 1 =$ _____ $1 + 9 =$ _____ $2 + 8 =$ _____

27 Fill in the boxes.

$15 - 7 =$



28 Calculate:

(1) $5 + 7 =$ _____ $4 + 9 =$ _____

(2) $8 + 5 =$ _____ $2 + 8 =$ _____

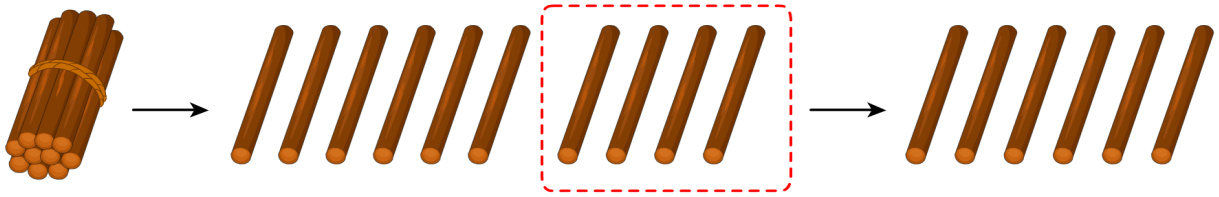
(3) $4 + 7 =$ _____ $9 + 5 =$ _____

(4) $1 + 7 =$ _____ $4 + 4 =$ _____

(5) $6 + 5 =$ _____ $5 + 2 =$ _____

(6) $2 + 3 =$ _____ $7 + 10 =$ _____

29 Calculate:



10 – 4 =

10 – 1 =　　10 – 8 =　　10 – 3 =　　10 – 4 =

10 – 5 =　　10 – 9 =　　10 – 2 =　　10 – 7 =

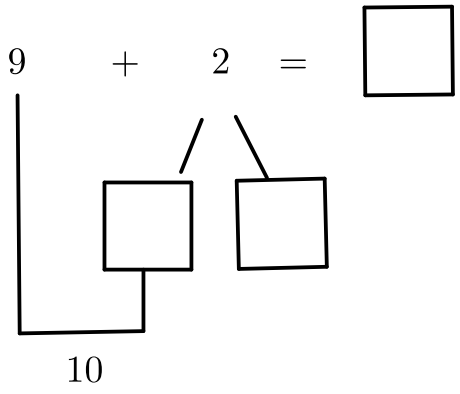
30 Calculate:

2 + 5 = _____ .　　3 + 5 = _____ .　　5 + 1 = _____ .

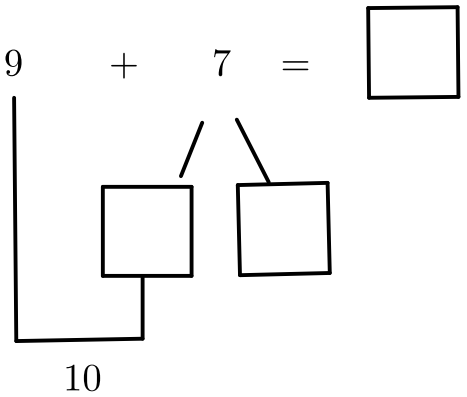
2 + 6 = _____ .　　3 + 6 = _____ .　　6 + 4 = _____ .

31 Fill in the boxes.

(1)



(2)



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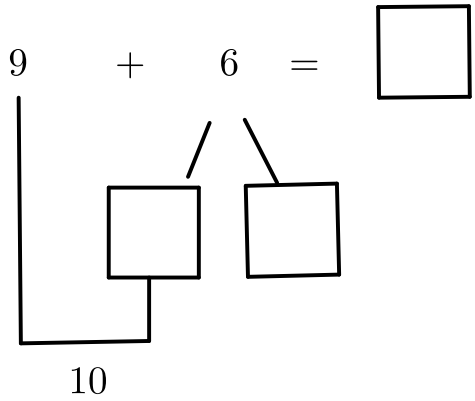

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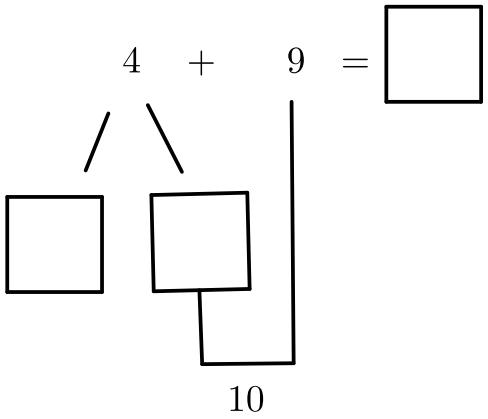


32 Calculate:

13 – 9 =　　16 – 7 =　　12 – 8 =

18 – 8 =　　11 – 8 =　　17 – 7 =

14 – 7 =　　12 – 7 =　　15 – 7 =

11 – 9 =　　14 – 8 =　　16 – 9 =

15 – 8 =　　16 – 8 =　　19 – 9 =

15 – 9 =　　18 – 9 =　　16 – 7 =

33 Calculate:

$2 - 1 =$ _____ . $8 - 0 =$ _____ . $7 - 1 =$ _____ .

$7 - 2 =$ _____ . $6 - 3 =$ _____ . $3 - 1 =$ _____ .

$1 - 1 =$ _____ . $4 - 3 =$ _____ . $6 - 1 =$ _____ .

34 Calculate:

(1) $7 + 7 =$ _____ $5 + 1 =$ _____

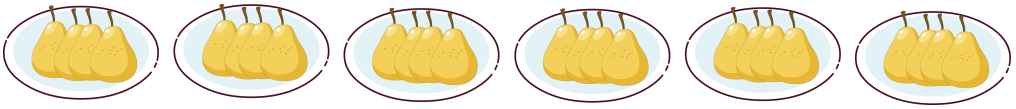
(2) $8 + 4 =$ _____ $7 + 13 =$ _____

(3) $12 + 7 =$ _____ $9 + 8 =$ _____

(4) $11 + 7 =$ _____ $16 + 1 =$ _____

Counting

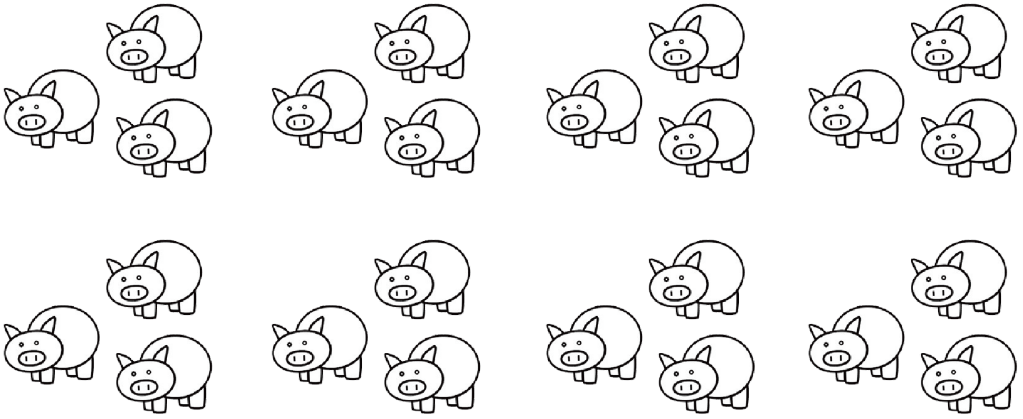
1 Count and fill in the blanks.



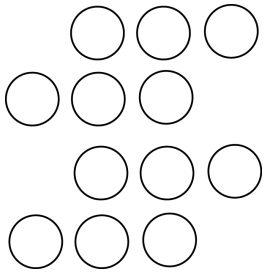
There are _____ pears in each plate.

There are _____ pears all together.

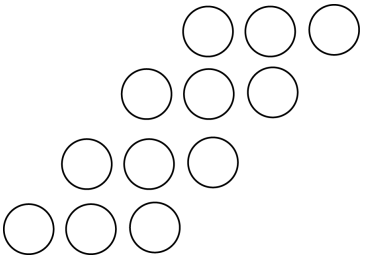
2 There are _____ pigs all together.



3 How many "○" are there?



_____



_____

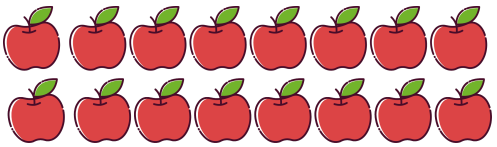
4 Circle the correct amount of each item.

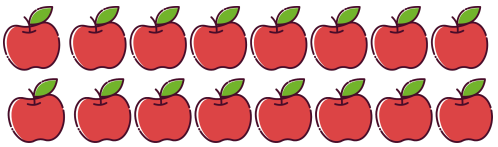
(2 5 10) hands

(2 5 10) pairs of shoes

(2 5 10) gloves

5 There are _____ apples in total.





6 Fill in the blanks with numbers.

△ △ △ △ △ △ △

▲ ▲ ▲ ▲

(1) There are _____ △; there are _____ ▲.

(2) There are _____ more △ than ▲.

7

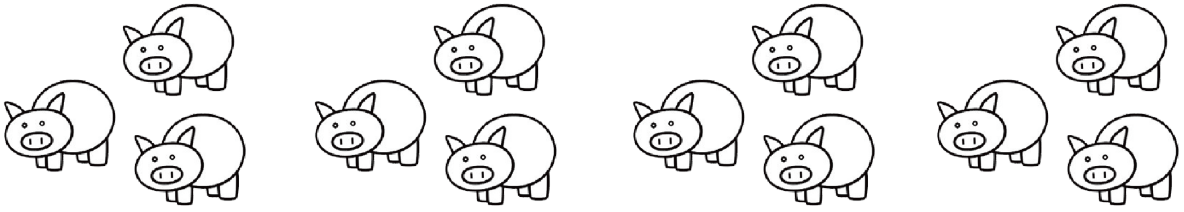
(1) Count and fill numbers in the blanks.

	volleyball	soccer	basketball
number			

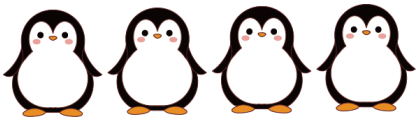
(2) Which ball has the largest number? Draw "√" in the blank below. Which ball has the smallest number? Draw "△" in the blank below.

volleyball	soccer	basketball

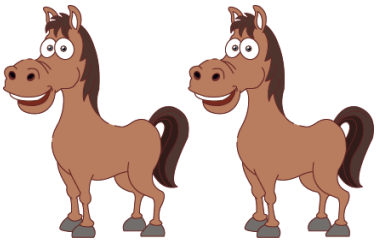
8 How many pigs are there?



9 Answer the following questions.

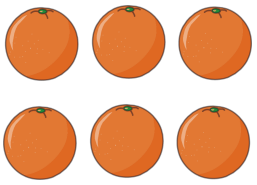
(1) 

These penguins have a total of _____ legs.

(2) 

These horses have _____ legs in all.

10 Count numbers of items and fill in the table.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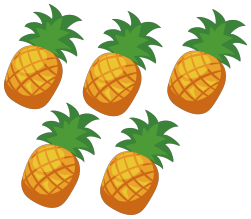
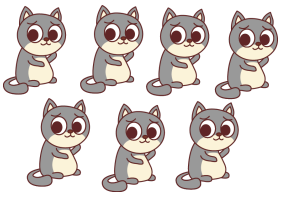
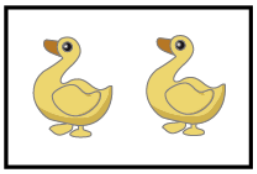
	
	

11 Count how many ducks are there in each group?



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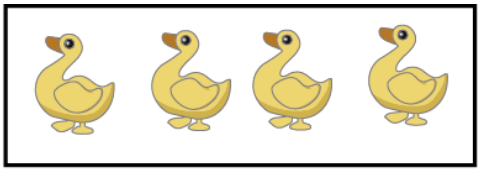

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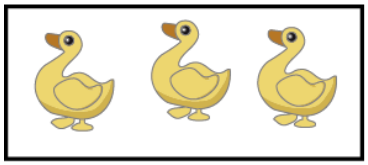

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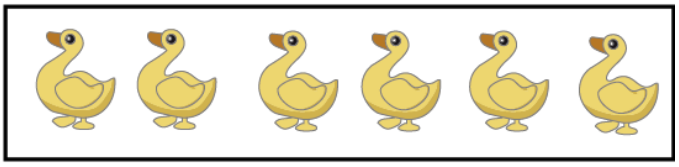
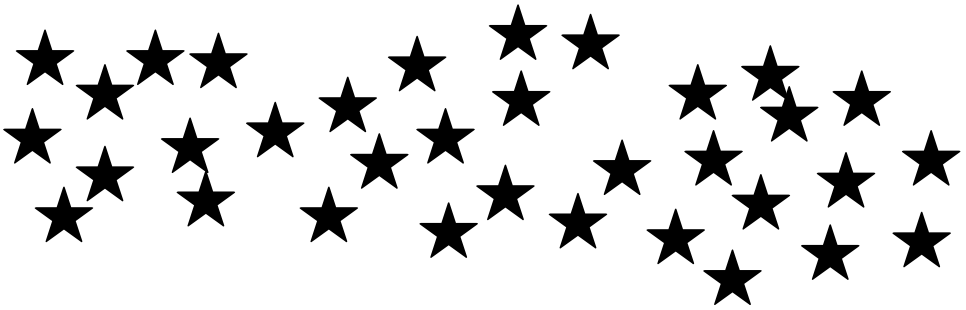
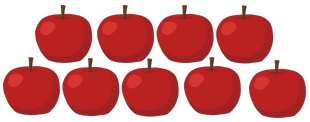


☐

12 There are _____ ★ in total.

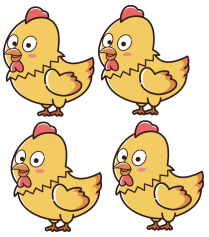


13 Count and write the numbers.



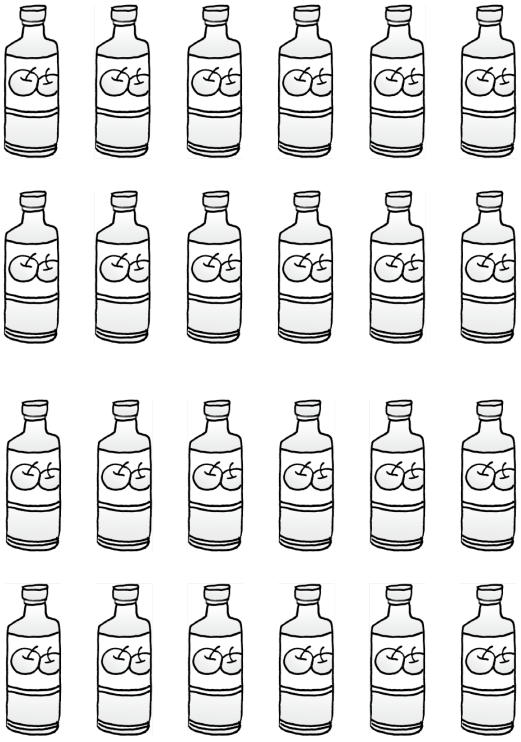
_____

_____

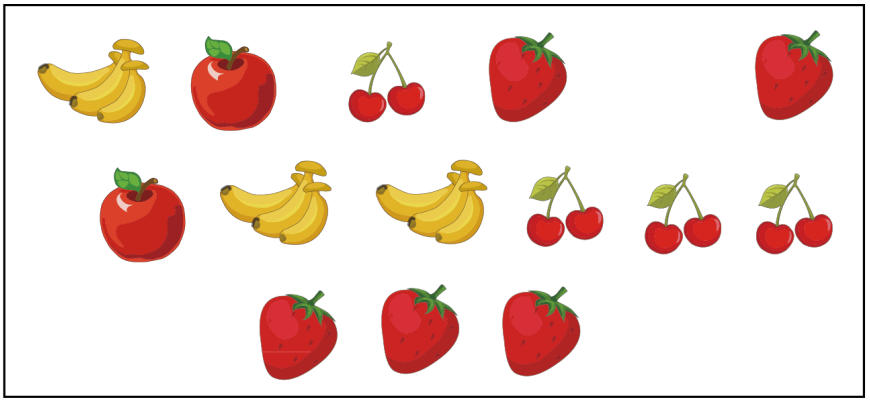


_____

14 There are _____ bottles of juice.



15 How many of each fruit are there?



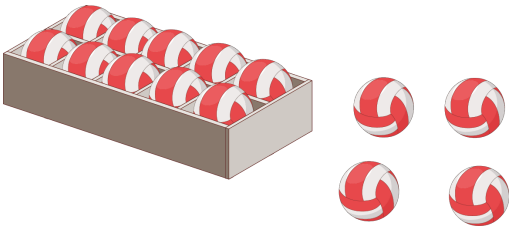
(9)

( )

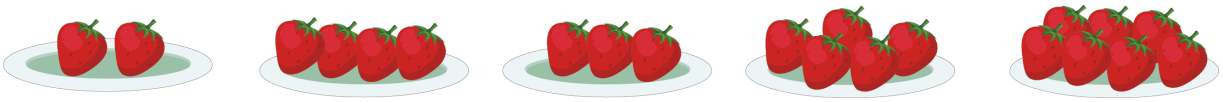
( )

( )

16 There are _____ balls in total.



17 Fill in the blanks.



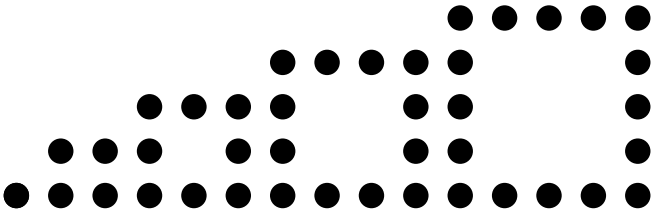
(1) There are _____ plates of strawberries all together.

(2) From left to right, the _____ plate has 4 strawberries, the fourth plate has _____ strawberries, and all together there are _____ strawberries in these two plates.

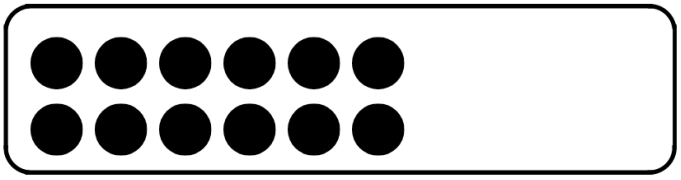
(3) From left to right, the _____ plate and the _____ plate have 5 strawberries together.

(4) From left to right, the fifth plate needs _____ more strawberries to have 10 in total.

18 There are _____ dots in the figure below.



19 Draw required number of beads in the blanks.

12 

24

36

20 Complete the patterns to make there are 10 figures in each group.

(1) △△△△△ _____

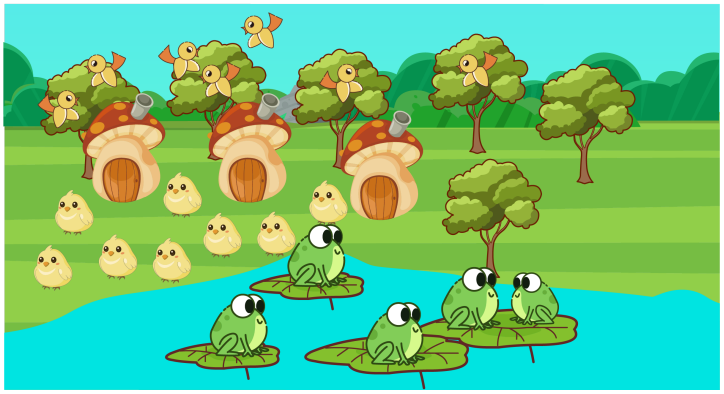
(2) _____ □□□□□

(3) ○○ _____ ○○

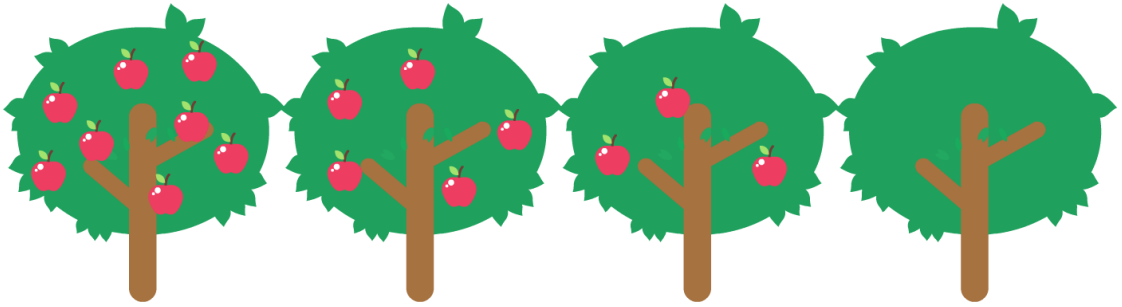
(4) ▽ ▽ ▽ _____ ▽ ▽ ▽▽

21 There are _____ cups all together.

22 Match the figures with numbers.

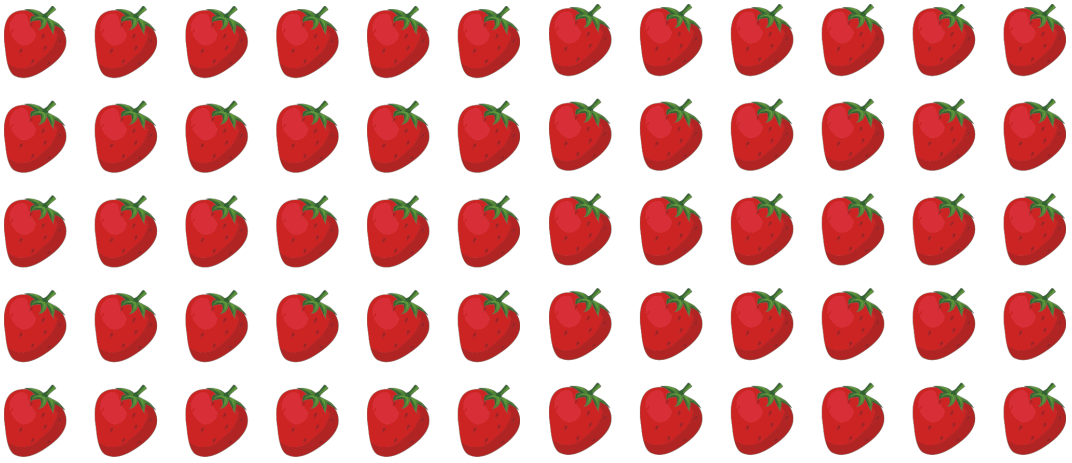


23 How many apples are there?

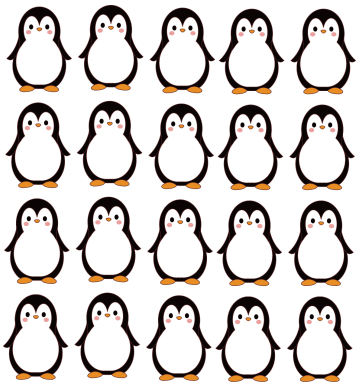


_____ _____ _____ _____

24 There are _____ strawberries.



25

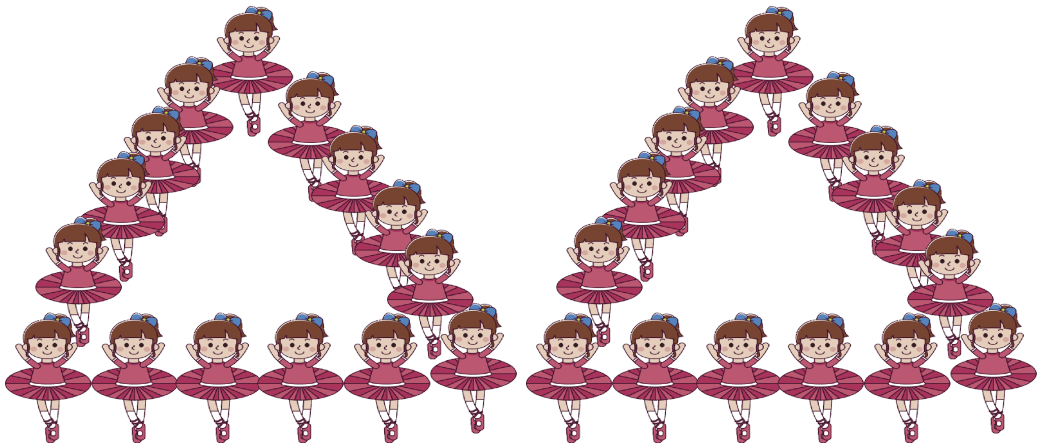


There are _____ rows, and in each row, there are _____ penguins.

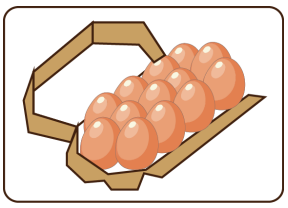
There are _____ columns, and in each column, there are _____ penguins.

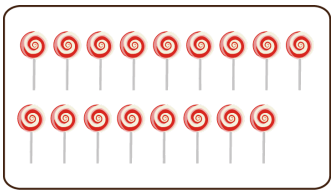
There are _____ penguins all together.

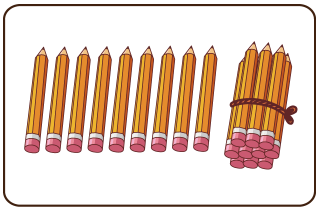
26 The students in Grade 1 are preparing a performance. How many students are there in this dance act?



27 Count and fill numbers in the blanks.





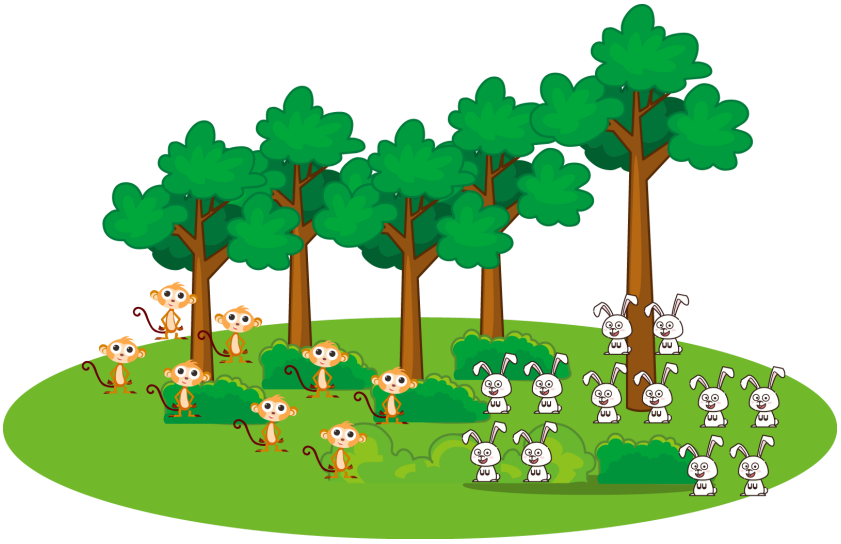


_____ _____ _____

28 There are _____ trees in the picture below.

There are _____ monkeys.

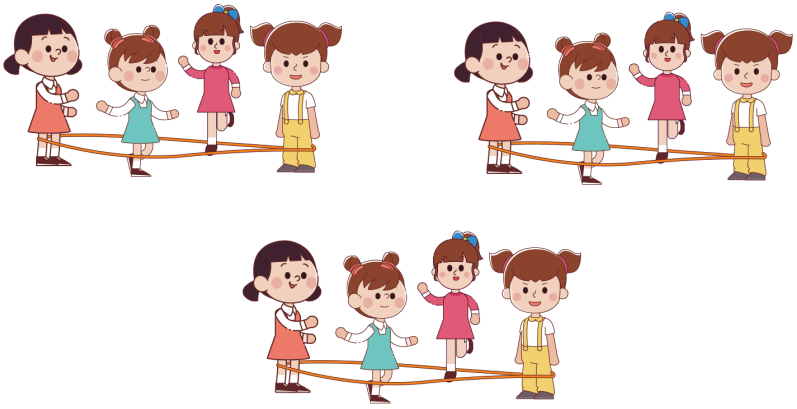
There are _____ rabbits.



29 Fill in the blanks.

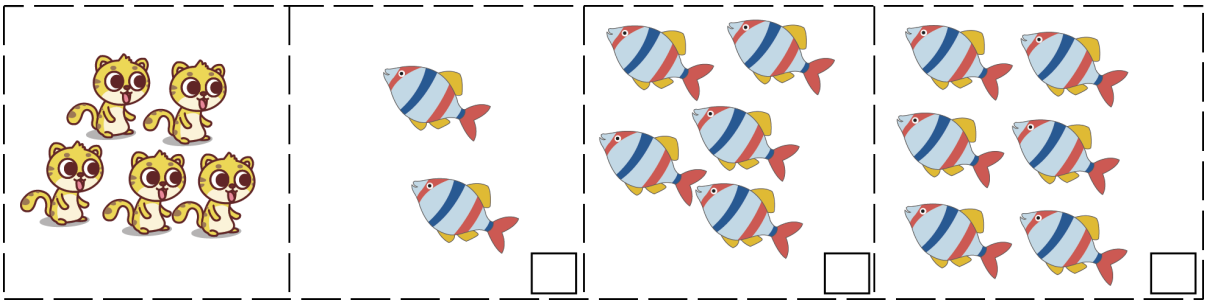
(1) There are _____ kids below.

(2) There are _____ kids below.



(3) There are _____ kids below.

30 Choose the correct group of fish so that each cat has 1 fish to eat.



31 There are _____ bananas in total.

32 Draw figures following the rules.

(1) Draw ◯ as many as .

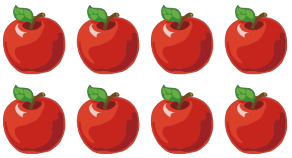
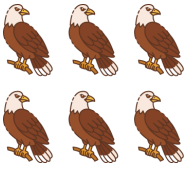
◯ : _____ .

(2) Draw△ to make there are 2 more△ than★.

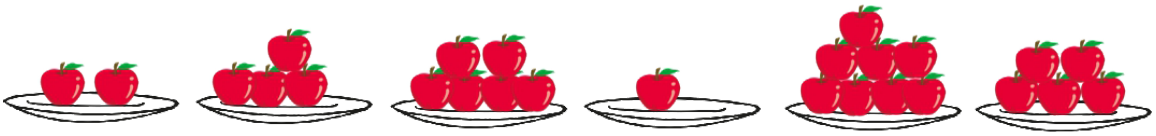
★★★★★

△ : _____ .

33 Count the number of items and circle the correct number under that.

		
3 4 5	7 8 9	5 6 7

34



(1) There are _____ plates of apples.

(2) From left to right, the fourth plate has the fewest apple; the _____ plate has the most apples.

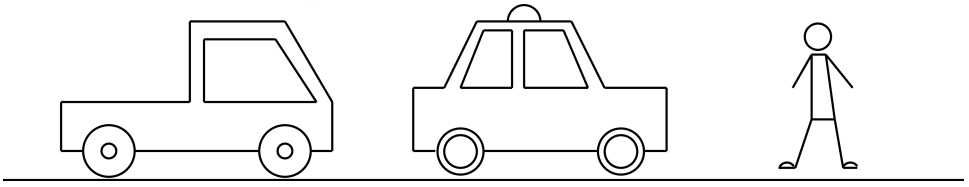
(3) From left to right, there are _____ apples in the first plate, which is _____ less than the apples in the third plate.

NOTE

Geometry

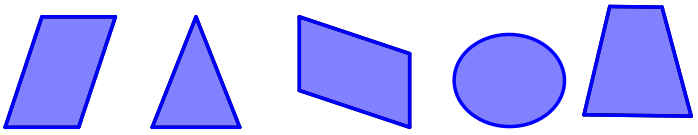
Counting Plane Shapes

1 Count the number of circles in the picture.



A. 4 B. 5 C. 9 D. 10 E. 13

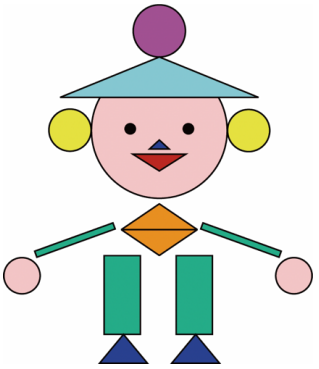
2 Circle the triangle(s) in the plane shapes below.



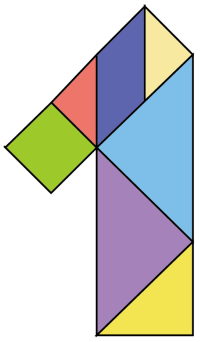
1 2 3 4 5

3 Count! How many rectangles, triangles, and circles are there?

Shape	Number
Rectangles	
Triangles	
Whole Circles	

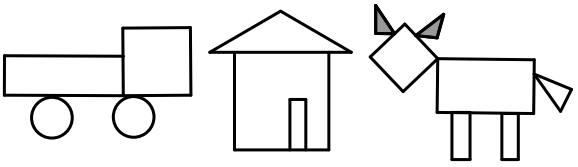


4 How many triangles can you find?



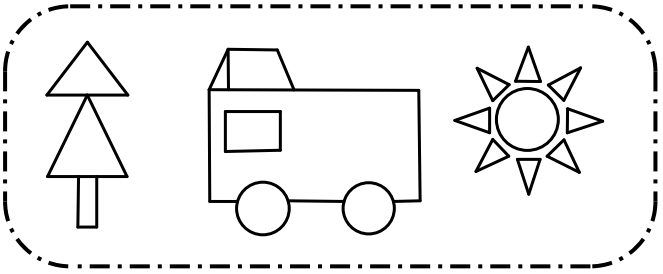
A. 3 B. 4 C. 5

5 How many triangles can you find?



A. 5 B. 3 C. 4

6 Count the number of triangles in the picture.

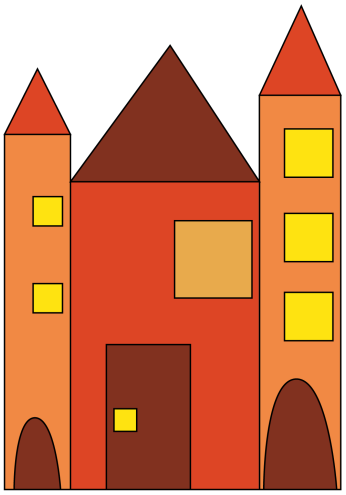


A. 8 B. 9 C. 10 D. 11 E. 12

7 Count the different shapes and fill in the blanks.

Rectangles: _____

Squares: _____



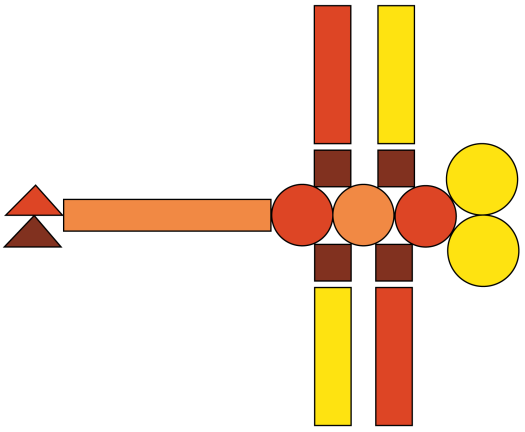
8 Count the different shapes and fill in the blanks.

Rectangles: _____

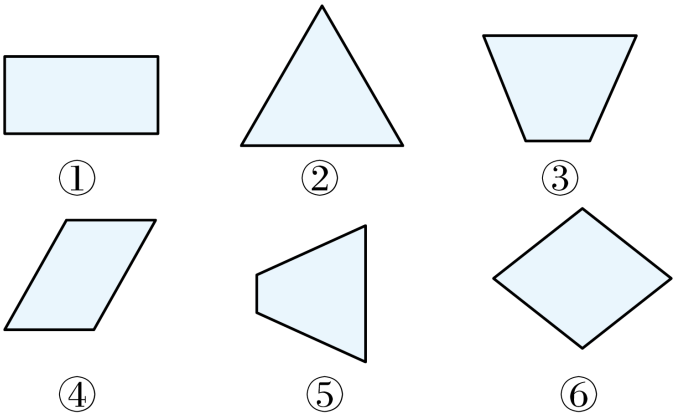
Triangles: _____

Squares: _____

Circles: _____



9 Circle the rectangle(s) in the plane shapes below.



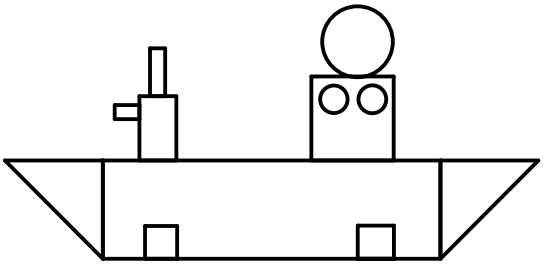
10 Count the different shapes and fill in the blanks.

Rectangles: _____

Triangles: _____

Squares: _____

Circles: _____



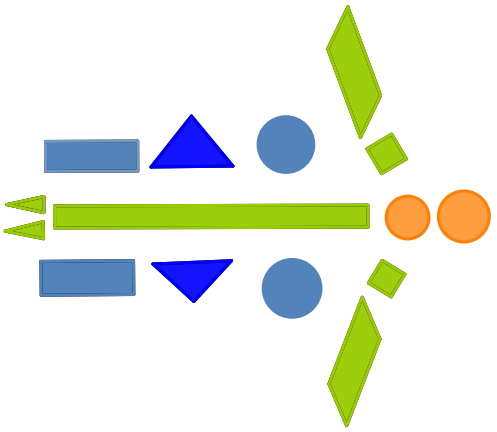
11 Count the different shapes and fill in the blanks.

Rectangles: _____

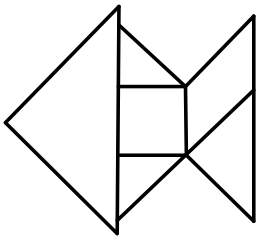
Squares: _____

Circles: _____

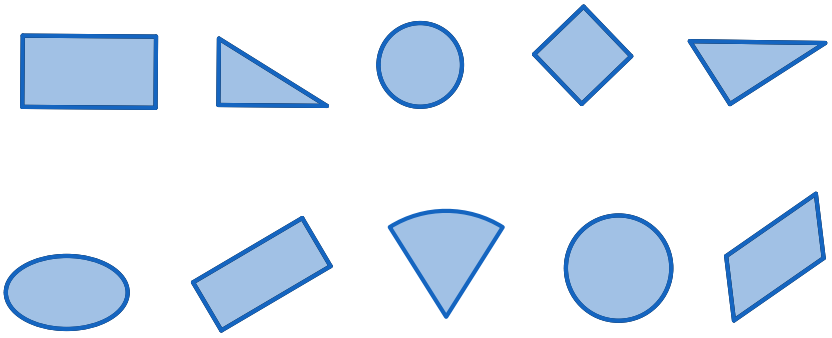
Triangles: _____



12 There are _____ triangles, _____ squares.



13 Fill in the blanks with the number of the shapes.



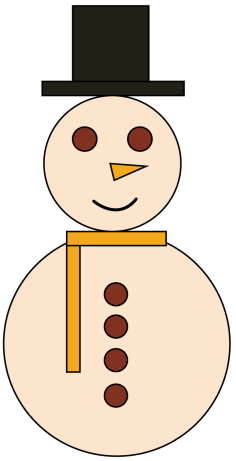
Rectangle: _____ .

Square: _____ .

Triangle: _____ .

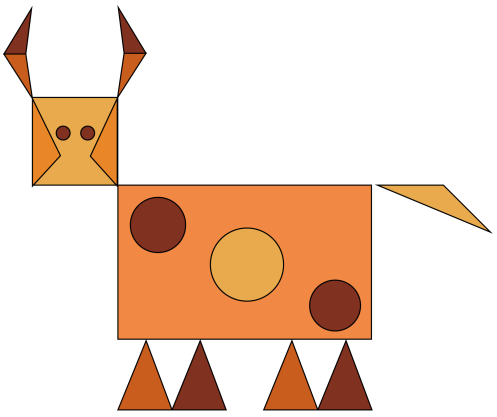
Circle: _____ .

14 Which kind of shape appears most frequently?



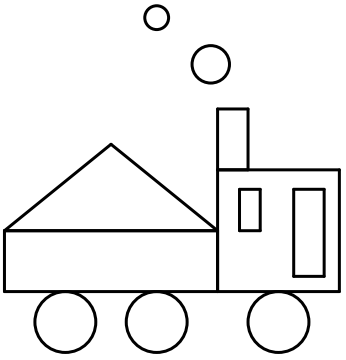
A. Triangle B. Square C. Circle D. Rectangle

15 Count the different shapes and fill in the blanks.



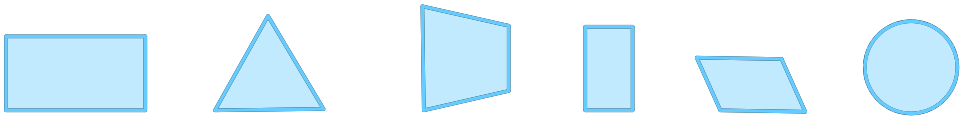
Shape	▭	□	○	△
Numbers	_____	_____	_____	_____

16 Count the different shapes and fill in the blanks.



Shape	▭	□	○	△
Numbers	_____	_____	_____	_____

17 Circle all the rectangles in the plane shapes below.

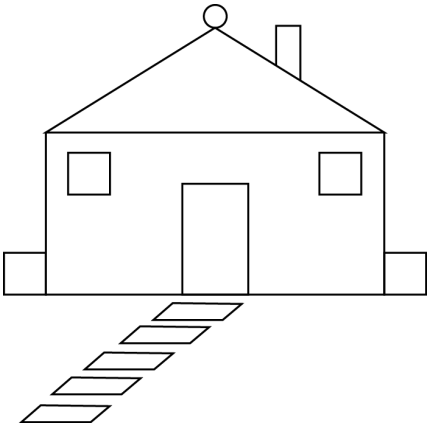


1 2 3 4 5 6

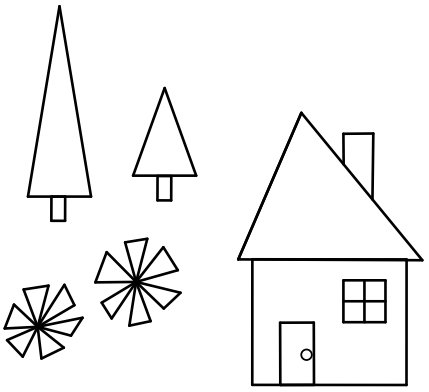
18 Count the different shapes and fill in the blanks.

Rectangles: _____

Squares: _____

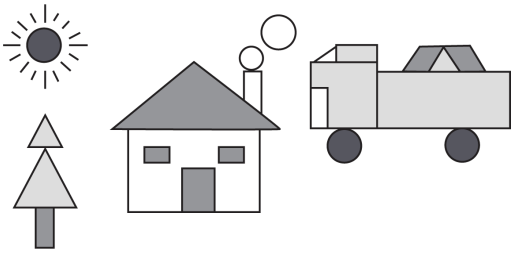


19 Count the number of triangles in the picture.



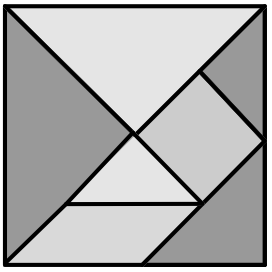
A. 2 B. 3 C. 14 D. 15 E. 16

20 Count how many rectangles, triangles, and circles are there in this picture below, respectively.



A. $7, 4, 5$ B. $8, 5, 5$ C. $5, 9, 5$ D. $9, 5, 5$

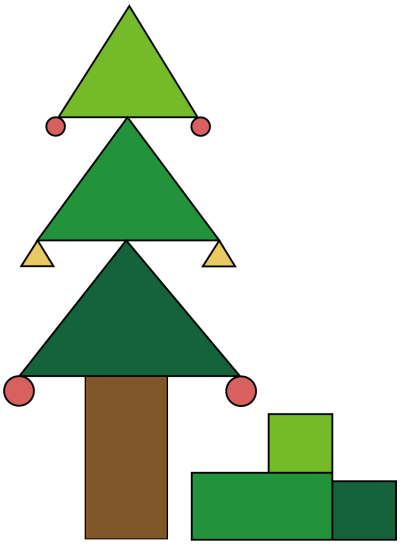
21 Count the different shapes and fill in the blanks.



Squares: _____

Triangles: _____

22 Count the different shapes and fill in the blanks.

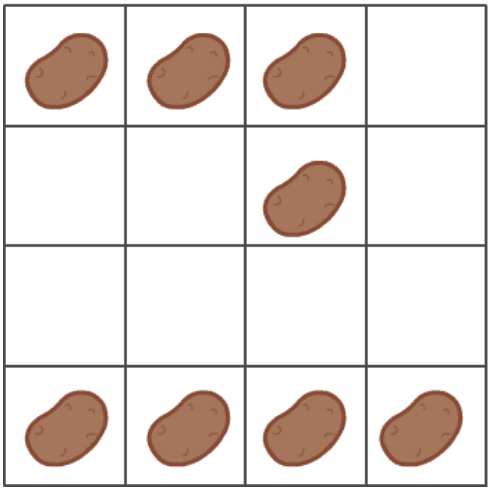


□ _____ ▭ _____ △ _____ ○ _____

Puzzles

1 The numbers around the grids show how many potatoes are in this row or column. Please fill the correct numbers in the blanks.

( ) ( ) ( ) ( )



( )

( )

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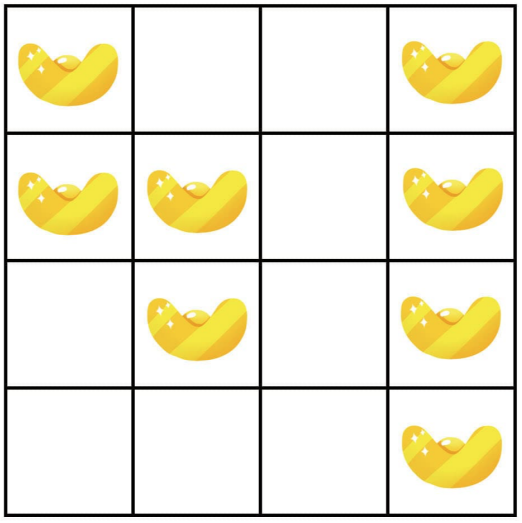
( )

2 The numbers around the grids show how many treasures are in this row or column. Fill in the correct numbers in the blanks.

( ) ( ) ( ) ( )



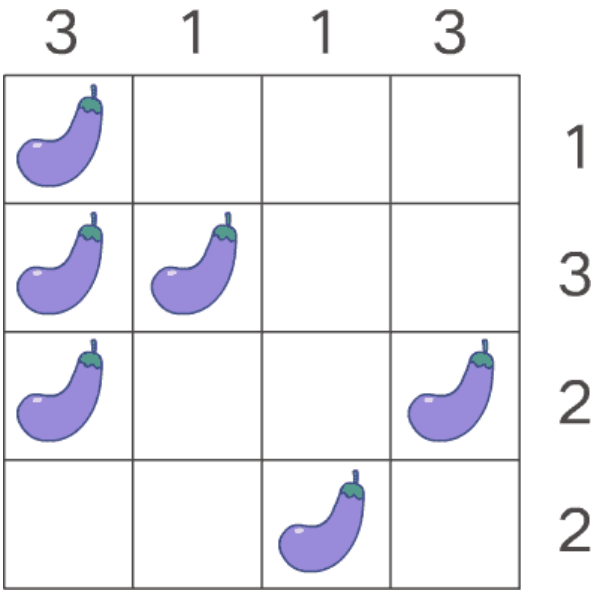
( )

( )

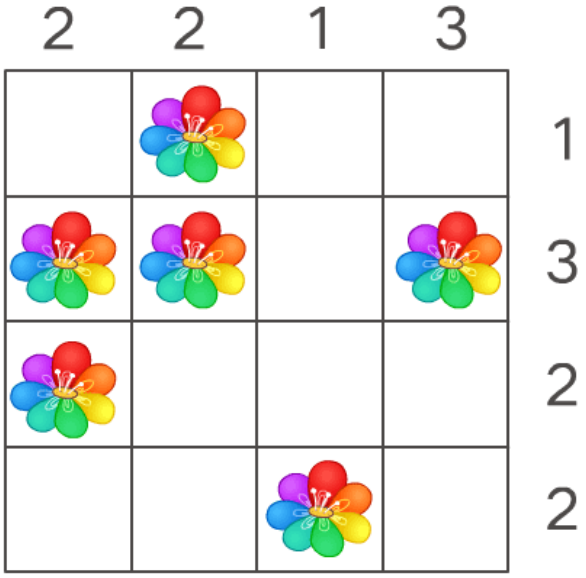
( )

( )

3 The numbers around the grids show how many eggplants are in this row or column. Please draw the missing eggplants in the correct grids.

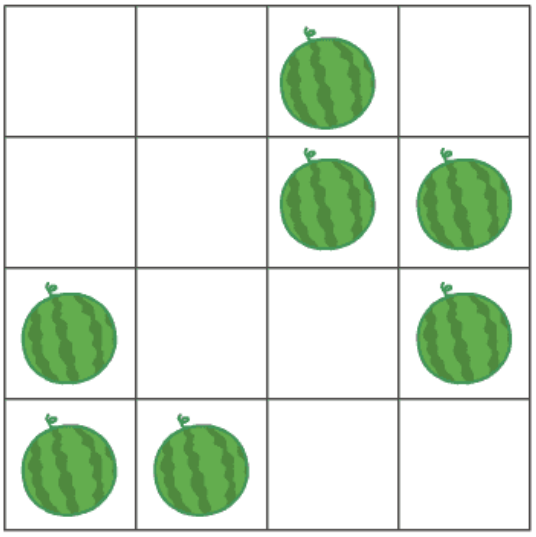


4 The numbers around the grids show how many flowers are in this row or column. Please draw the missing flowers in the correct grids.



5 The numbers around the grids show how many watermelons are in this row or column. Please fill the correct numbers in the blanks.

( ) ( ) ( ) ( )



( )

( )

( )

( )

Direction

1

(1) is to the _____ of , and to the _____ of .

(2) is to the _____ of , and to the _____ of .

(3) Counting from the right, is in the _____ place.

A. first B. second C. third D. fourth

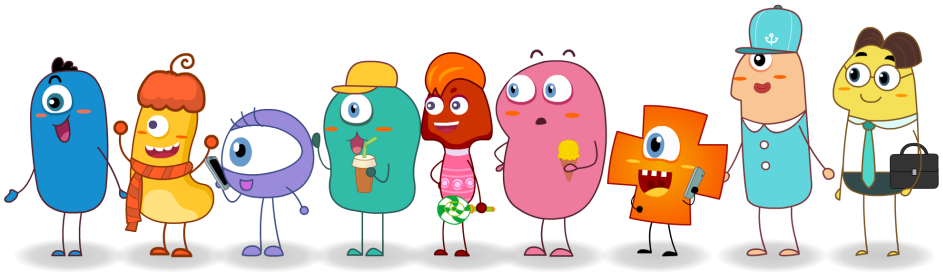
2

(1) The 2nd person counting from the front is _____ .

(2) _____ is in the last place counting from the front.

(3) There are _____ people behind Betsy.

3



(1) Counting from the front, Gary is in the 2nd place. Circle Gary in blue.

(2) Counting from back, Lydia is in the 4th place. Circle Lydia in yellow.

(3) There are _____ people in front of Lydia.

(4) There are five people behind Jason. Circle Jason in green.

(5) There are _____ people between Gary and Lydia.

4

(1) Which is the leftmost animal?

A. B. C. D.

(2) Which animal is to the right of ?

A. B. C. D.

(3) Which animal is between and ?

A. B. C. D.

5 Fill in the blanks.

(1) Counting from the right, is the _____ animal, and is the _____ animal.

(2) There are _____ animals to the left of , and _____ animals to the right of .

(3) There are _____ animals between and .

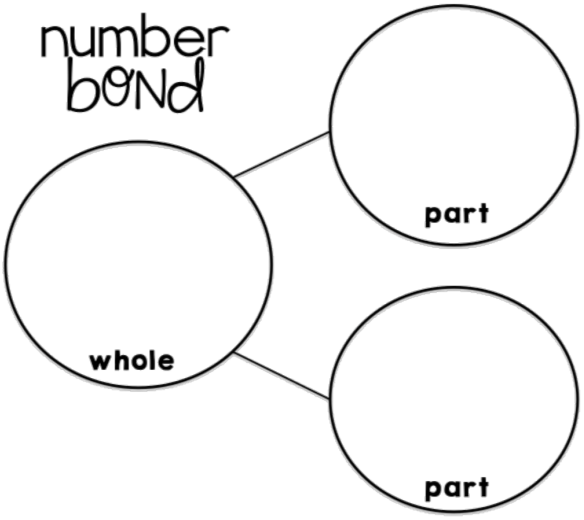
NOTE

Word Problems

Whole and Part

1 The rabbit has two baskets of carrots. There are 9 carrots in the first basket. The second basket has 8 carrots. How many carrots does the rabbit have in total?

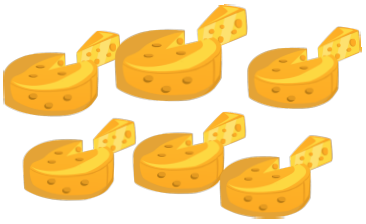
Step 1: Find the parts, and fill in the number bond.



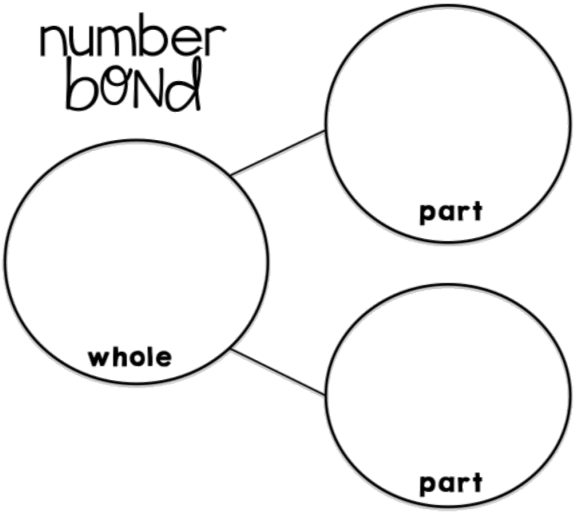
Step 2: To find the "whole", should we use "+" or "-" ?

_____ _____ _____ = _____

2 Little bear has 10 pieces of honey cakes. In total, little mouse and little bear have 15 pieces of cake. How many pieces of cakes does little mouse have?



Step 1: Find the whole and part, and fill in the number bond.



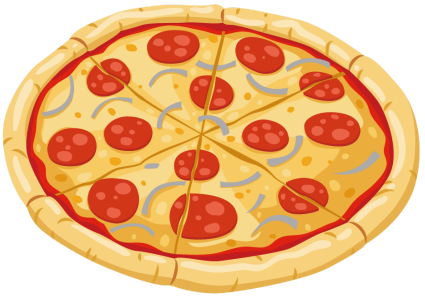
Step 2: To find the "part", should we use "+" or "-" ?

_____ _____ _____ = _____

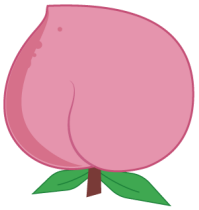
Summary: Use "+" to find the "whole", and use "-" to find the "part".

3 Kingsley is packing his suitcase right now because he is going to New York tomorrow. He needs to bring 6 pairs of shoes. He packs 2 pairs, and now he needs to pack _____ more pairs of shoes.

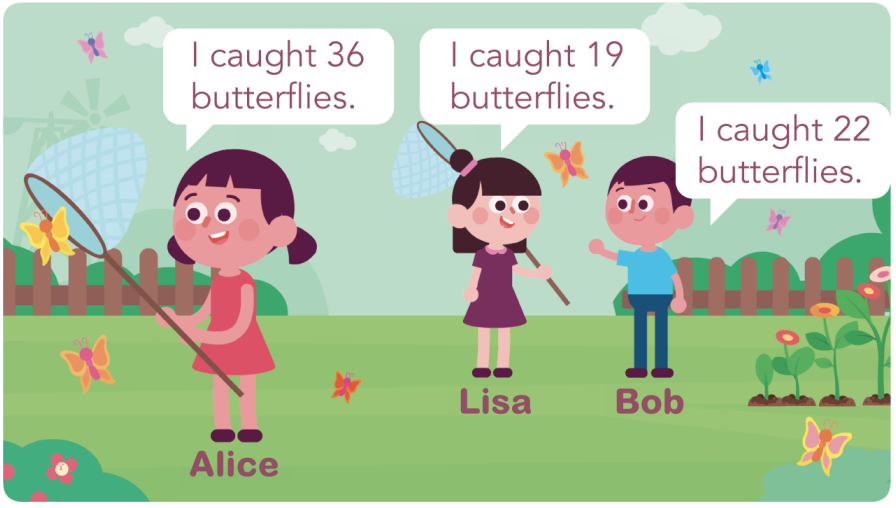
4 Breet and Eddy are eating pizza. Breet eats 4 pieces of pizza, and Eddy eats 5 pieces of pizza. In total, how many pieces of pizza do they eat?



5 I have 6 peaches. After buying another 3 peaches, how many peaches do I have now?



6



(1) Alice and Lisa caught _____ butterflies in total.

(2) Lisa and Bob caught _____ butterflies in total.

7 Eddy went to a cafe with his friend. He spent 10 dollars on buying 2 cups of coffee and 6 dollars on a piece of cake. In total, he spent _____ dollars.

8 Christmas is coming. Jackson needs to buy 2 gifts for his mom and dad, and he needs to buy 7 more gifts for his cousins. How many gifts does he need to buy in total?

9 There are 7 bunnies in your yard. Then, another 3 bunnies come. How many bunnies are there in your yard now?

10 Alex went to celebrate his friend's birthday. He spent 8 dollars on buying a gift and 3 dollars on packing it. In total, he spent _____ dollars.

11 Sissy wants to eat 9 pieces of candy and Lily wants to eat 7 pieces of candy. How many pieces of candy in total do they want to eat?

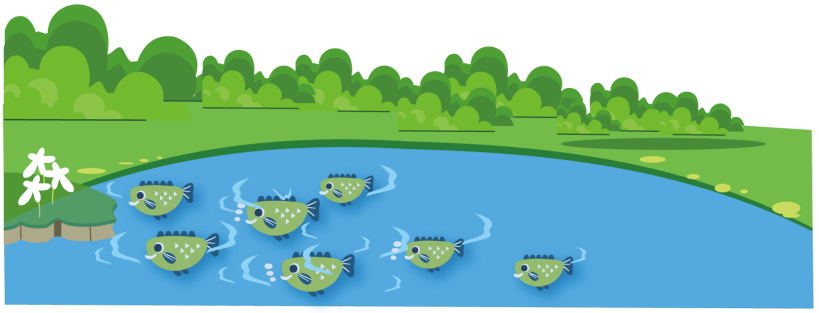
12 Dr.He has 5 patients in the morning and 7 patients in the afternoon. He has _____ patients in total this day.

13 Jack buys 17 cupcakes from the bakery. His mom feels hungry and she eats 5 cupcakes. Now, how many cupcakes does Jack have?

14 Tim wants to plant 10 trees and Sue wants to plant 5 trees. How many trees in total do they want to plant?

15 Mr.Huang has 17 flowers. He then gives 2 flowers to his students. He now has _____ flowers.

16 There are 5 fish in a pond. There comes another 6 fish. How many fish are there in the pond?



17 Jack is going to Manhattan tomorrow. He needs to bring 8 T-shirts. He packs 3 T-shirts, so now he needs to pack _____ more T-shirts.

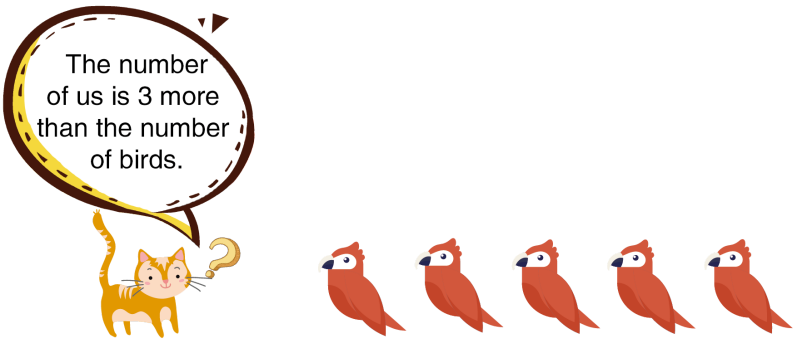
18 Breet buys 15 pieces of cookies from the bakery. His friend feels hungry and he eats 6 pieces of cookies. Now how many pieces of cookies does Breet have?

19 Hannah has 14 lollipops in total. She then gives 3 lollipops to her friends. Now, she has _____ lollipops.

More or Less

1 Write the correct equations for the following figures.

(1) How many cats are there?

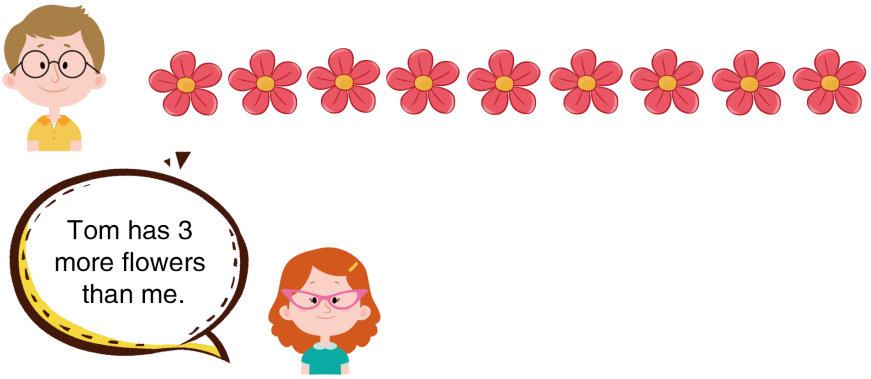


Step 1: The number of which animal is more? Cats or birds?

Step 2: To get the number of cats, should we use "+" or "-"?

_____ _____ _____ = _____

(2) How many flowers does Sherry have?



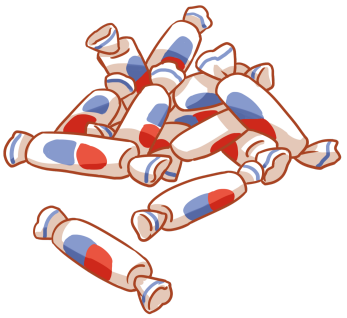
Step 1: Who has more flowers? Tom or Sherry?

Step 2: To get the number of Sherry's flowers, should we use "+" or "-"?

_____ _____ _____ = _____

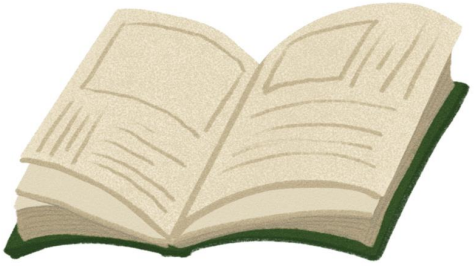
Summary: Find who is more first, then use "+" to get more, and use "-" to get less.

2 Sophie has 17 pieces of candy, and Jordon has 8 fewer pieces of candy than Sophie. How many pieces of candy does Jordon have?

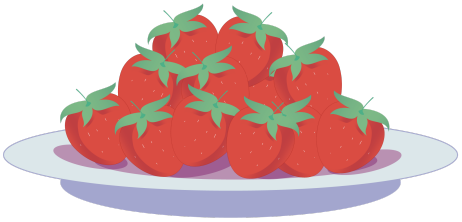


A. 17 B. 8 C. 7 D. 9

3 Lucas borrows books from the library. He borrows 4 Chinese books and 5 English books. How many books does he borrow in total?



4 Eddie has 25 strawberries, and Bob has 8 fewer strawberries than Eddie. How many strawberries does Bob have?

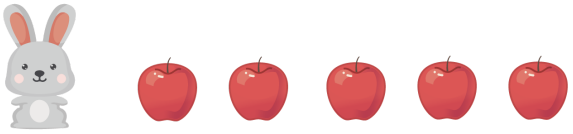


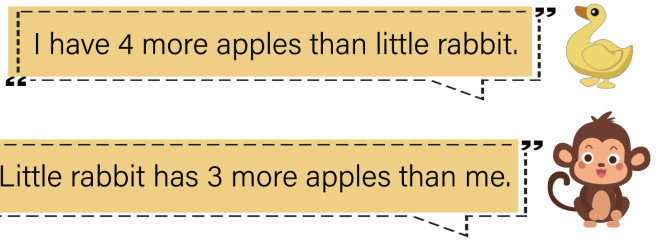
A. 29 B. 17 C. 15 D. 13

5 Lucas draws eggs in the Easter Day. He draws 8 red eggs and 7 yellow eggs. How many eggs does he draw in total?

6 Jenny eats 6 pieces of pizza, and she eats 5 fewer pieces than Qiqi. How many pieces of pizza does Qiqi eat?

7 How many apples do duck and monkey have, respectively?





How many apples does duck have? ☐ ○ ☐ = ☐

How many apples does monkey have? ☐ ○ ☐ = ☐

8 Lisa eats 5 cupcakes, and she eats 2 fewer cupcakes than Jenny. How many cupcakes does Jenny eat? Write an equation to find the answer.

9 Sophie has 13 T-shirts, and she has 5 more T-shirts than her sister. How many T-shirts does her sister have?

10 10 kittens are catching mice. There are 3 more sleeping kittens than mice-catching kittens. How many kittens are sleeping?

11 Luna has 15 flowers, and she has 3 more flowers than Harry. How many flowers does Harry have?

12 Sophie has 16 toys, and she has 8 more toys than Jordan. How many toys does Jordan have? Write an equation to find the answer.

13 Hook walks 20 minutes to school, and he walks 5 more minutes than Lily. How many minutes does Lily walk?

14 Jack plants 8 trees, and he plants 2 fewer trees than Sissy. How many trees does Sissy plant?

15 Eddy has 15 pieces of paper, and Brett has 4 more than Eddy. How many pieces of paper does Brett have?

A. 17 B. 18 C. 16 D. 19

16 Jenny eats 6 pieces of cookie, and she eats 5 fewer (less) pieces than Qiqi. How many pieces of cookie does Qiqi eat?

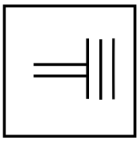
17 Lucy sleeps 8 hours last night, and she sleeps 2 fewer hours than Mary. How many hours does Mary sleep?

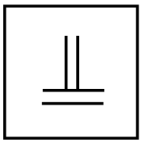
NOTE

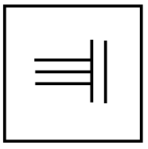
Logical Reasoning

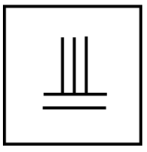
Pattern

1 According to the pattern below, what will be the fourth graph?

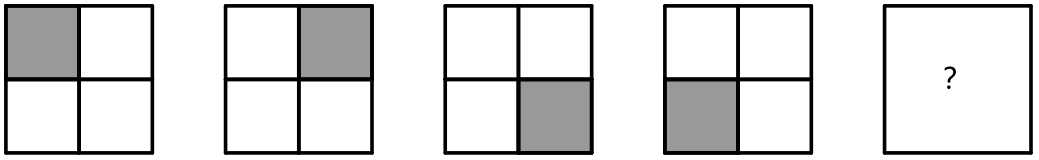
A. 

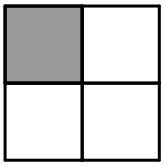
B. 

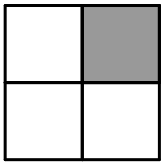
C. 

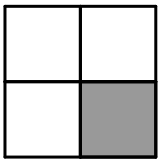
D. 

2 Find the pattern and choose the next figure.

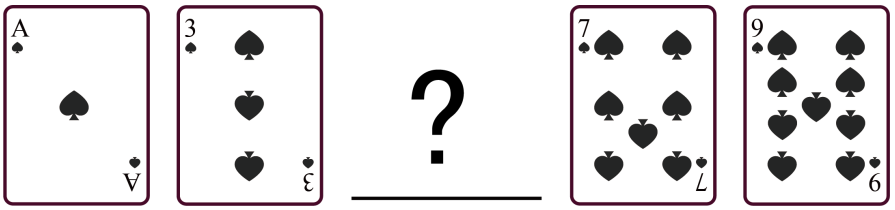


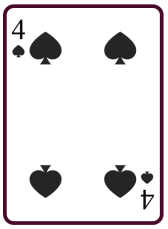
A. 

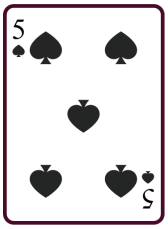
B. 

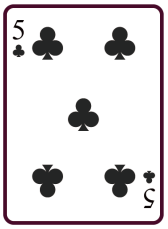
C. 

3 Look at the numbers and patterns on the cards. Which card should be placed in the question mark?

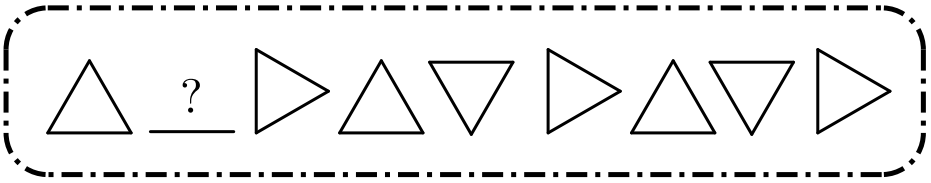


A. 

B. 

C. 

4 Find the missing shape.



A.

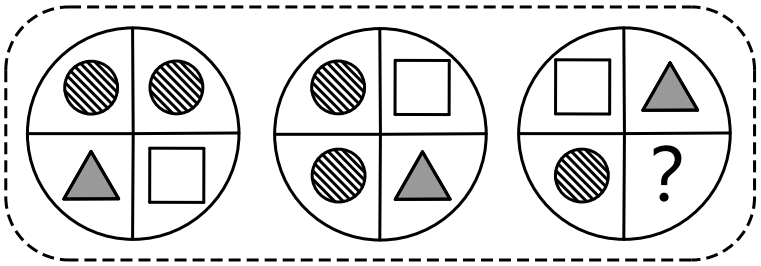
B.

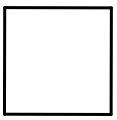
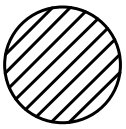
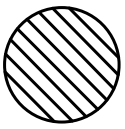
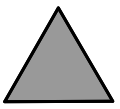
C.

D.

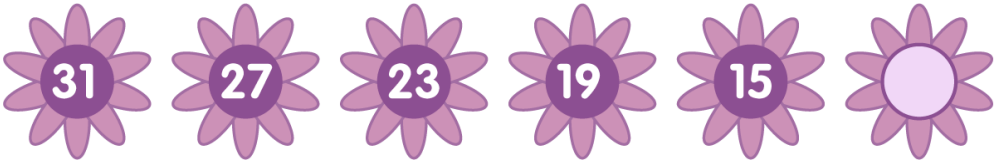
E.

5 Find the missing shape.



A.  B.  C.  D.  E.

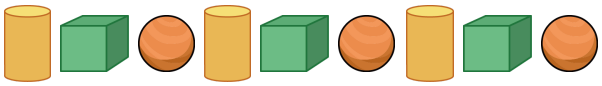
6 Look at these little flowers. Find the pattern and choose the correct number for the sixth flower.

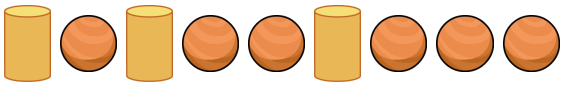


A. 10 B. 11 C. 12 D. 13 E. 14

7 Find the pattern in each row and choose the correct answer to fill in the blanks.

(1) ____ ____

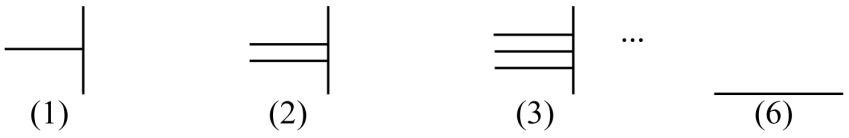
(2)  ____ ____ ____

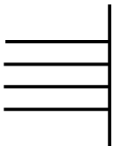
(3)  ____ ____ ____ ____ ____

8 In the following pattern, fill in the blank with a suitable symbol.

▲ ● ▲ ● ● ▲ ● ___ ● ▲ ● ● ● ● ▲ ● ● . . .

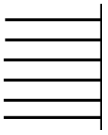
9 According to the pattern below, what will the graph (6) look like?



A. 

B.

C.

D. 

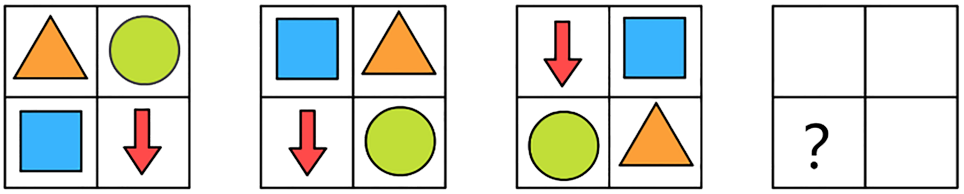
10 According to the pattern below, which shape should be in the blank with the question mark?

A.

B.

C.

11 According to the pattern below, which shape should be in the square with the question mark in the next figure?



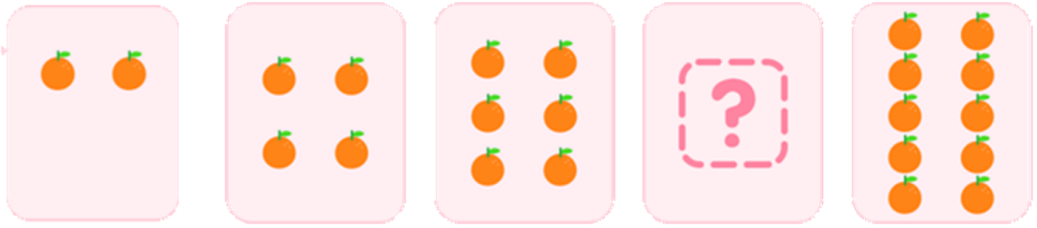
A.

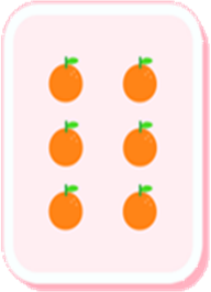
B.

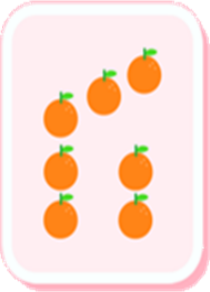
C.

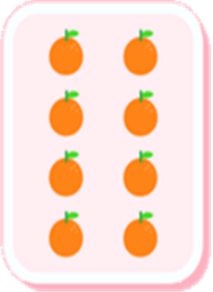
D.

12 According to the pattern below, which shape should be in the blank with the question mark?

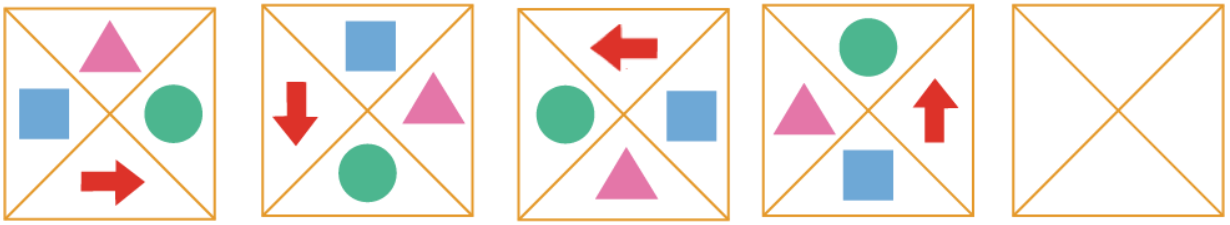


A. 

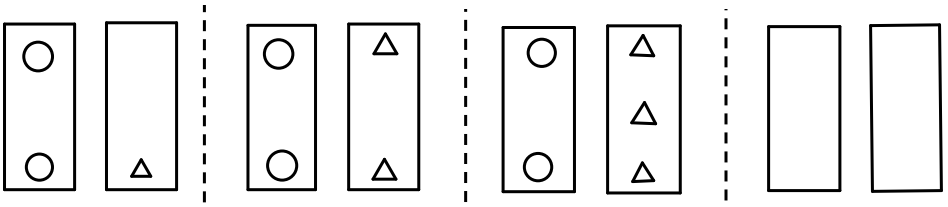
B. 

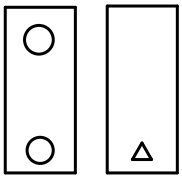
C. 

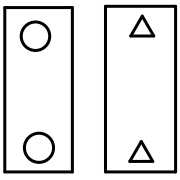
13 Find the pattern and draw the next figure.

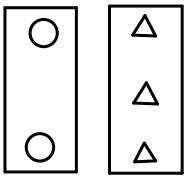


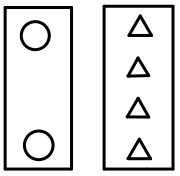
14 According to the pattern, choose the last figure.



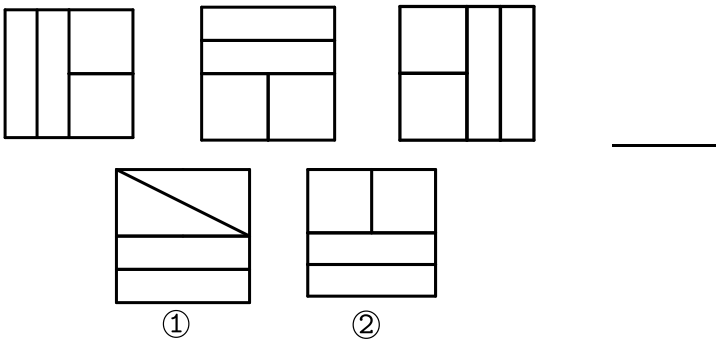
A. 

B. 

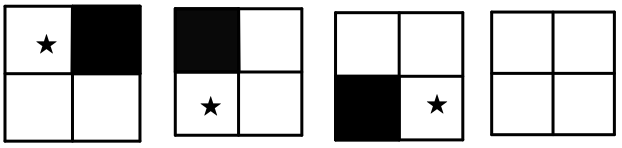
C. 

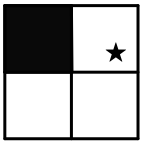
D. 

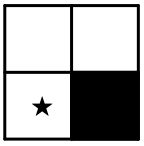
15 Find the pattern and choose the next figure.

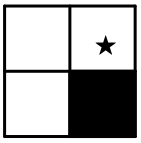


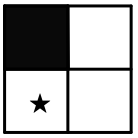
16 Find the pattern and choose the fourth shape.



A. 

B. 

C. 

D. 

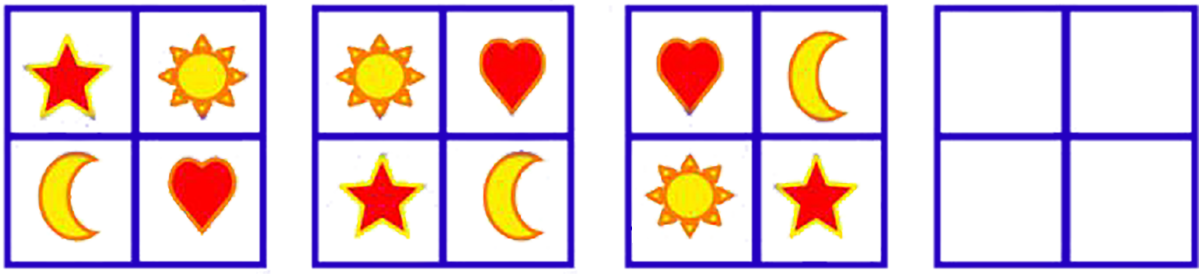
17 According to the pattern below, which shape should be in the blank with the question mark in the next figure?

A.

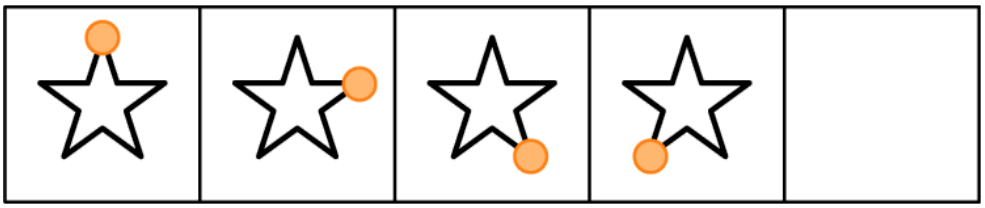
B.

C.

18 Find the pattern and draw the fourth figure.



19 Find the pattern and choose the correct shape for the blank.



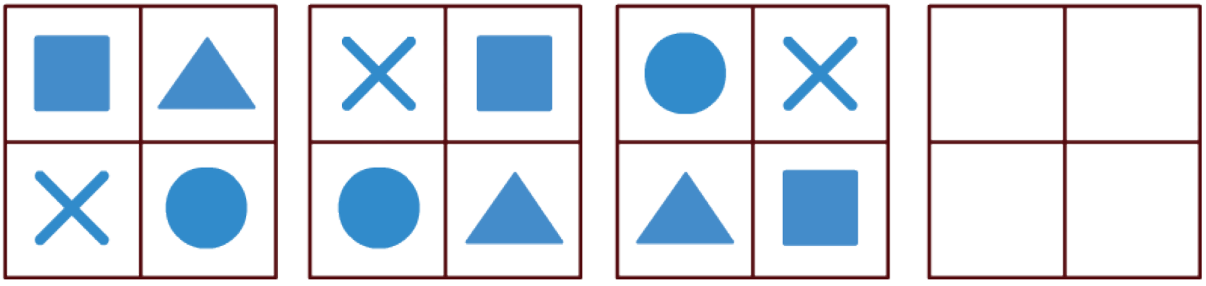
A.

B.

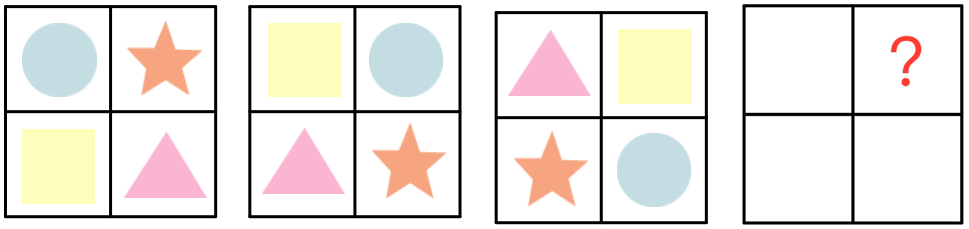
C.

D.

20 Find the pattern and draw the next figure.



21 According to the pattern below, which shape should be in the square with the question mark in the next figure?



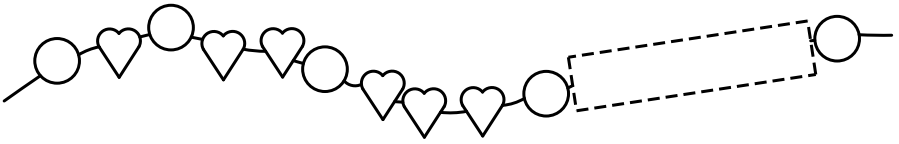
A.

B.

C.

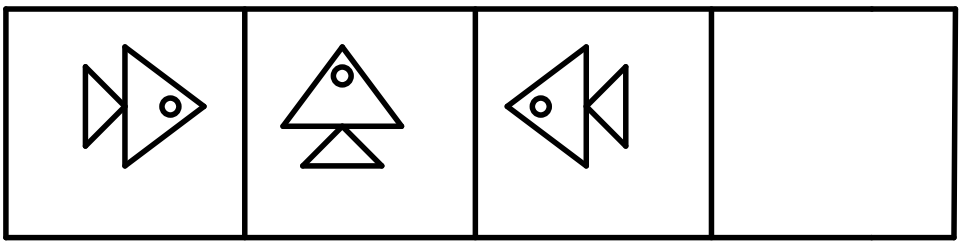
D.

22 Find the pattern in the shapes. How many ♡ should be filled in the blank?



A. 3 B. 4 C. 5

23 Find the pattern and draw the fourth figure.



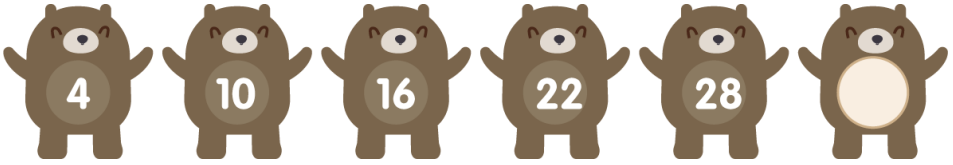
24 Find the pattern and draw the next figure.

D	A
C	B

C	D
B	A

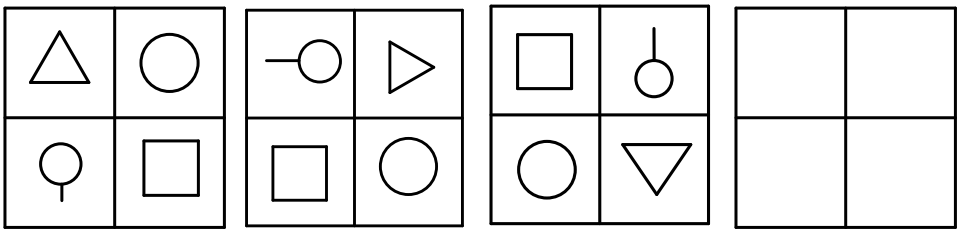
B	C
A	D

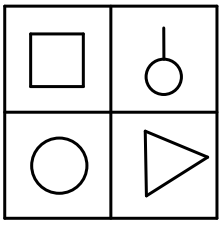
25 Look at these little bears. Find the pattern and choose the correct number for the sixth bear.

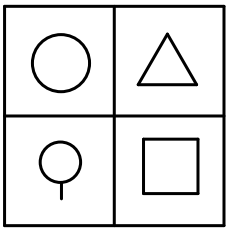


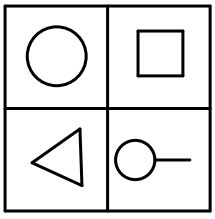
A. 31 B. 32 C. 33 D. 34 E. 35

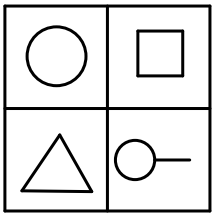
26 Find the pattern and choose the fourth figure.



A. 

B. 

C. 

D. 

27 Observe the pattern of the snails and mushrooms below. Which of the following options has the same pattern?

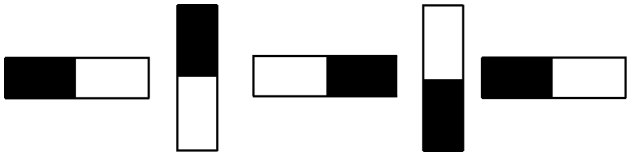
A.

B.

C.

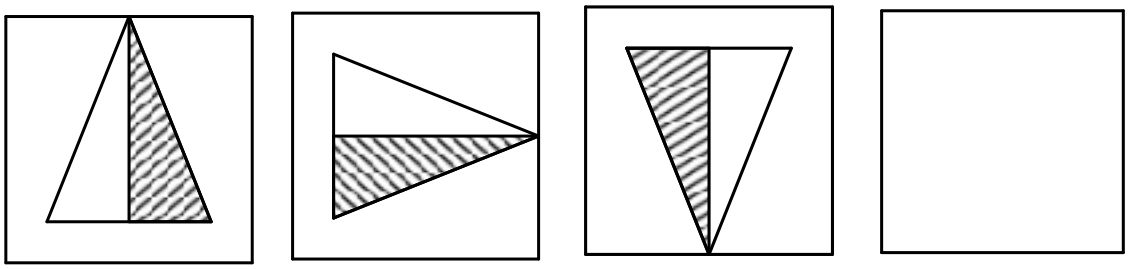
D.

28 Find the pattern and draw the next two figures.

(1)  _____ _____

(2) _____ _____

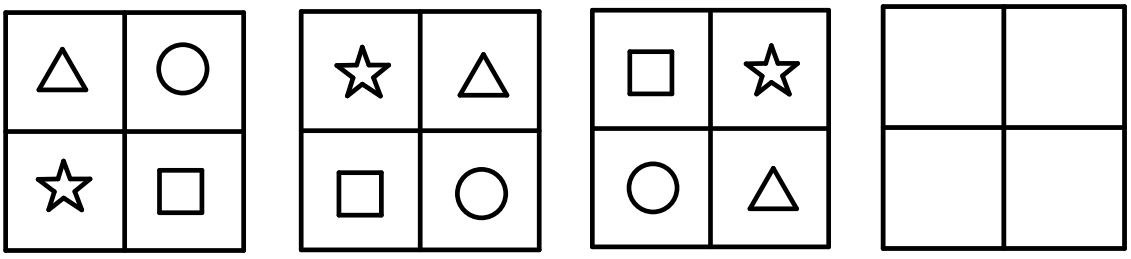
29 Find the pattern and draw the fourth figure.



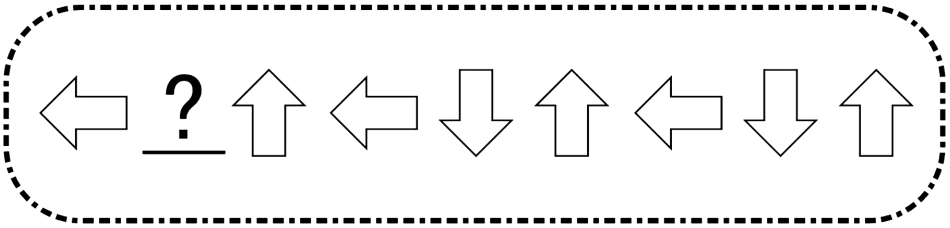
30 According to the following pattern, fill in the blank with a suitable shape.

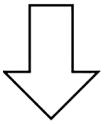
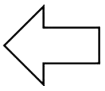
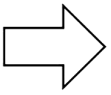
▲▲●●▲▲●●▲▲●●▲ __ ●●▲...

31 Find the pattern and draw the next figure.



32 Find the missing shape.

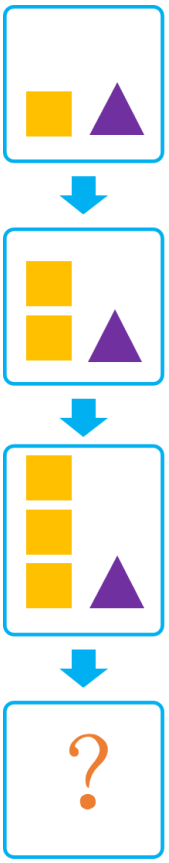


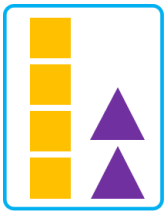
A.  B. C.  D.  E.

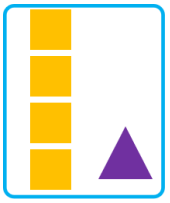
33 According to the pattern below, which shape should be in the blank with the question mark?

A. B. C.

34 According to the pattern below, what will be the fourth graph?



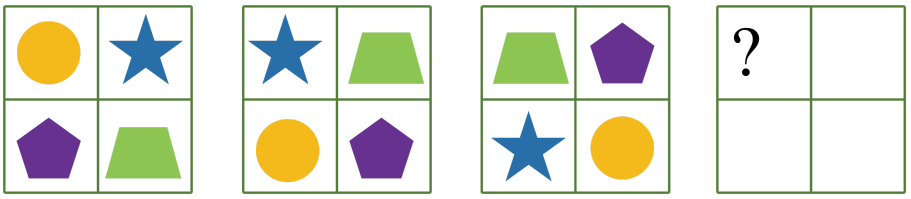
A. 

B. 

C.

D.

35 According to the pattern below, which shape should be in the blank with the question mark in the next figure?



A. B. C. D.

36 According to the pattern below, which shape should be in the blank with the question mark?

A. B. C.

NOTE

NOTE

Advanced Math

Numbers and Operations

Addition and Subtraction

1 Calculate:

(1) $3 + 5 - 7 =$ _____ $9 - 8 + 6 =$ _____

(2) $14 - 4 + 6 =$ _____ $5 + 9 - 4 =$ _____

(3) $7 + 10 - 8 =$ _____ $8 - 4 + 9 =$ _____

(4) $4 + 9 - 10 =$ _____ $9 - 4 + 3 =$ _____

(5) $12 - 7 + 4 =$ _____ $17 - 8 + 2 =$ _____

(6) $8 - 4 + 6 =$ _____ $8 + 3 - 7 =$ _____

2 Fill in the blanks.

5+ _____ =13

7+ _____ =11

6+ _____ =15

8+ _____ =14

3 Calculate:

(1) 10 + 4 + 2 = _____

9 + 2 + 7 = _____

(2) 3 + 7 + 7 = _____

4 + 5 + 7 = _____

(3) 9 + 1 + 2 = _____

4 + 2 + 4 = _____

(4) 6 + 6 + 2 = _____

2 + 2 + 7 = _____

4 Calculate:

(1) $9 - 7 + 6 =$ _____ $17 + 1 - 10 =$ _____

(2) $12 - 9 + 3 =$ _____ $19 - 10 + 9 =$ _____

(3) $6 + 13 - 5 =$ _____ $4 + 14 - 6 =$ _____

(4) $19 - 5 + 3 =$ _____ $10 + 3 - 5 =$ _____

5 Calculate:

(1) $4 - 2 + 5 =$ _____

$5 + 3 - 6 =$ _____

(2) $6 - 4 + 4 =$ _____

$7 - 5 + 6 =$ _____

(3) $9 - 5 + 2 =$ _____

$8 + 6 - 7 =$ _____

(4) $9 - 6 + 4 =$ _____

$7 - 3 + 9 =$ _____

(5) $17 - 10 + 3 =$ _____

$13 + 4 - 9 =$ _____

(6) $6 - 1 + 9 =$ _____

$4 + 10 - 6 =$ _____

6 Calculate:

(1) $7 - 4 + 3 =$ _____ $7 + 8 - 6 =$ _____

(2) $7 - 7 + 3 =$ _____ $9 - 4 + 5 =$ _____

(3) $6 + 3 - 5 =$ _____ $4 + 4 - 6 =$ _____

(4) $9 - 5 + 7 =$ _____ $3 + 9 - 5 =$ _____

7 Calculate:

(1) $6 + 5 + 1 =$ _____

$3 + 2 + 7 =$ _____

(2) $7 + 4 + 2 =$ _____

$7 + 2 + 7 =$ _____

(3) $3 + 4 + 5 =$ _____

$6 + 2 + 7 =$ _____

(4) $6 + 4 + 3 =$ _____

$5 + 2 + 2 =$ _____

(5) $8 + 3 + 2 =$ _____

$1 + 2 + 6 =$ _____

(6) $5 + 4 + 4 =$ _____

$10 + 2 + 3 =$ _____

8 Calculate:

$6 \xrightarrow{+3} \square \xrightarrow{-2} \square \xrightarrow{+1} \square \xrightarrow{-5} \square \xrightarrow{+4} \square \xrightarrow{-3} \square \xrightarrow{+2} \square$

$9 \xrightarrow{-3} \square \xrightarrow{-5} \square \xrightarrow{+8} \square \xrightarrow{-0} \square \xrightarrow{-7} \square \xrightarrow{+6} \square \xrightarrow{-4} \square$

9 Calculate:

(1) $14 - 4 + 1 =$ _____ $7 + 8 - 3 =$ _____

(2) $15 - 4 + 3 =$ _____ $9 + 8 - 4 =$ _____

(3) $13 + 4 - 5 =$ _____ $17 - 8 + 3 =$ _____

(4) $14 + 2 - 6 =$ _____ $17 - 3 + 5 =$ _____

10 Calculate:

(1) $10 - 5 - 3 =$ _____ $9 - 2 - 3 =$ _____

(2) $19 - 4 - 6 =$ _____ $17 - 2 - 4 =$ _____

(3) $19 - 5 - 1 =$ _____ $14 - 2 - 3 =$ _____

(4) $18 - 3 - 6 =$ _____ $13 - 3 - 3 =$ _____

(5) $18 - 3 - 10 =$ _____ $15 - 1 - 2 =$ _____

(6) $14 - 4 - 6 =$ _____ $17 - 2 - 8 =$ _____

11 Find an easier way to calculate:

(1) $8 - 4 + 2 =$ _____

(2) $15 + 5 - 3 =$ _____

(3) $24 + 12 - 4 =$ _____

(4) $16 + 22 - 2 + 4 =$ _____

12 Fill in the blanks.

$7 +$ _____ $= 16$

$5 +$ _____ $= 12$

$4 +$ _____ $= 13$

$6 +$ _____ $= 13$

13 Find the answers:

(1) $2 + 3 + 7 =$

(2) $15 - 4 - 9 =$

(3) $20 - 5 - 7 =$

(4) $14 + 6 - 3 =$

14 Fill in the blanks.

2+ _____ =11

6+ _____ =12

5+ _____ =13

8+ _____ =17

15 Calculate:

(1) $10 - 1 + 4 =$ _____ $7 + 2 - 3 =$ _____

(2) $14 - 5 + 2 =$ _____ $4 + 12 - 3 =$ _____

(3) $14 - 5 + 3 =$ _____ $18 - 12 + 6 =$ _____

(4) $18 - 5 + 2 =$ _____ $8 + 12 - 10 =$ _____

(5) $19 - 6 + 7 =$ _____ $12 + 2 - 10 =$ _____

16 Calculate:

(1) $7 - 4 - 2 =$ _____ $7 - 2 - 2 =$ _____

(2) $9 - 4 - 3 =$ _____ $10 - 2 - 2 =$ _____

(3) $17 - 4 - 12 =$ _____ $12 - 2 - 2 =$ _____

(4) $9 - 1 - 6 =$ _____ $10 - 3 - 2 =$ _____

(5) $8 - 3 - 3 =$ _____ $5 - 1 - 2 =$ _____

(6) $10 - 4 - 5 =$ _____ $17 - 2 - 6 =$ _____

Calculation with Pictures

1 Fill in the blanks.

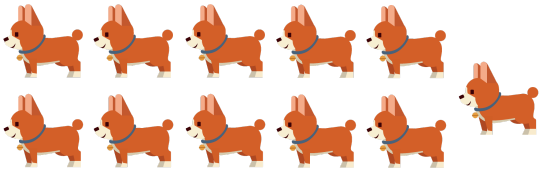
− 4 = 0

= ( )

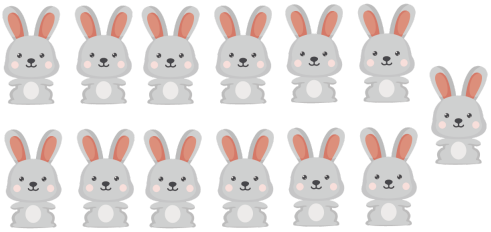
5 − = 0

= ( )

2 Write 2 addition and 2 subtraction equations for the animals below.



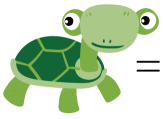
3 Write 2 addition and 2 subtraction equations for the animals below.



4 Look at the figures and fill in the blanks:

= 9 = 7 = 4 = 17

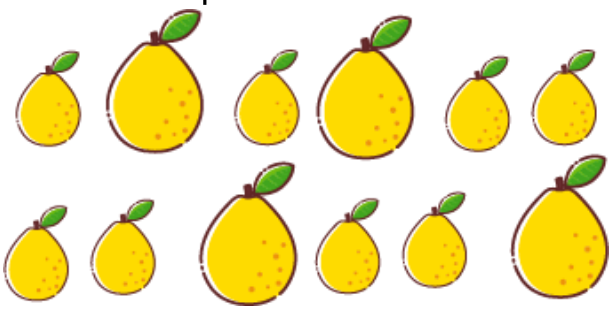
(1) + = _____

(2) +  = _____

(3) − = _____ .

(4) + = _____ .

5 Observe the picture below and write 4 different equations.



6 Fill in the blanks.

+ 2 = 2

= ( )

3 − = 3

= ( )

7 Look at the pictures and fill in the blanks:

□ =7 ○ =8 △ =5 ◇ =18

(1) □ + ○ = _____ .

(2) ◇ − △ = _____ .

(3) ○ + △ = _____ .

(4) △ + □ = _____ .

8 Look at the pictures and fill in the blanks.

4 + _____ = _____

Odd and Even

1 Fill numbers in the circles.

25 80 62 100 33 1 45 10 121 105

Even

(1)

Odd

(2)

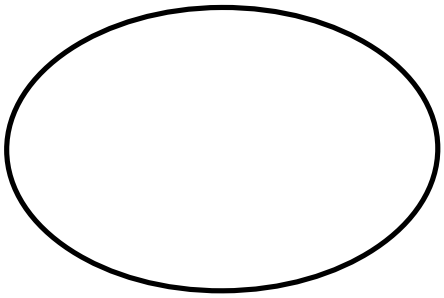
2 Which two even numbers are closest to 46?

A. 45 and 47 B. 40 and 50 C. 44 and 48 D. 47 and 48

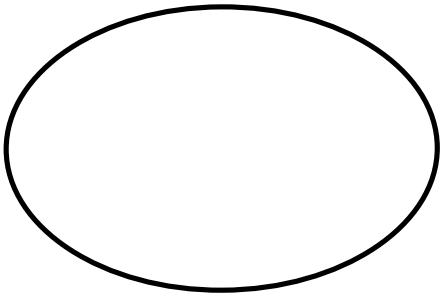
3 Fill numbers in the circles.

15 , 28 , 49 , 68 , 76 , 83 , 112 , 260 , 105 .

Even



Odd



4 Draw a "△" in the blank if the number in the box is an odd number. Draw a "◯" in the blank if the number in the box is an even number.

(1) 12

_____

(2) 40

_____

(3) 63

_____

(4) 150

_____

(5) 605

_____

(6) 6666

_____

(7) 35

_____

(8) 76

_____

(9) 110

_____

(10) 510

_____

(11) 876

_____

(12) 9999

_____

5 Which of the following numbers are even numbers? Which are odd numbers? Fill the numbers in the correct boxes.

14 63 36 400 7 95 29

Odd Number	Even Number

6 Circle each pair and fill in the blanks.

Number of items Even or Odd

(1)

_____ _____

(2)

_____ _____

7 Fill numbers in the boxes.

1	13	27	41	57	61	73	84	95
11	33	47	15	53	49	51	63	99

Odd

Even

8 Find the odd numbers: _____

33	98	355	0	123	881
8089	1000	988	565	3678	677

9 Fill numbers in the circles.

61 4 27 98 50 608 65 103 99 3569 9000 0 1 770 10

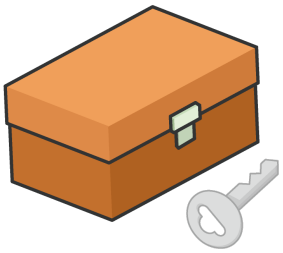
Odd

(1)

Even

(2)

10 Correct password for the treasure chest is an even number. Circle the correct password.

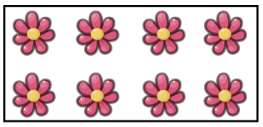


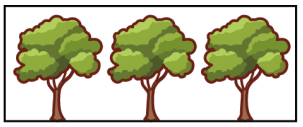
1236 3917 4203

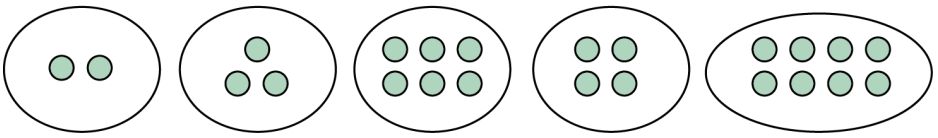
11 There are _____ even numbers between 5 and 11.

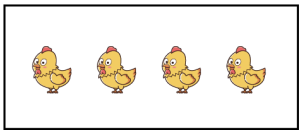
Compare Numbers

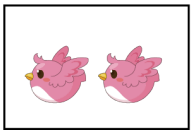
1 Count the number of items in each picture and match it with same number of dots.

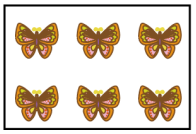












2 Compare:

48 _____ 52 20 _____ 23 44 _____ 33

65 _____ 66 50 _____ 49 33 _____ 22

27 _____ 36 49 _____ 21 11 _____ 11

21 _____ 27 43 _____ 34 19 _____ 29

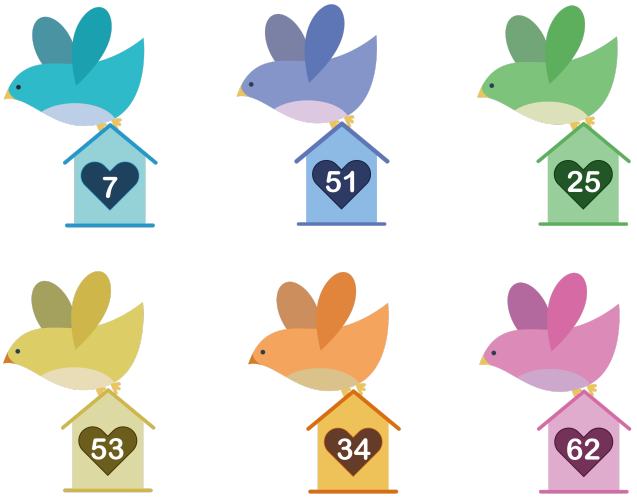
3 Compare and fill ">", "<", or "=" in the blanks.

67 _____ 77 99 _____ 44 32 _____ 73

34 _____ 43 42 _____ 21 18 _____ 81

100 _____ 100 1 _____ 10 22 _____ 55

4 Order the numbers from greatest to least.



_____ > _____ > _____ > _____ > _____ > _____

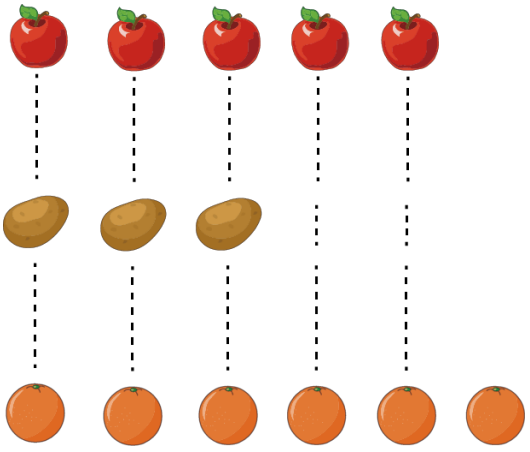
5 Compare and fill ">", "<", or "=" in the blanks.

67 _____ 62　　8 _____ 56　　99 _____ 100

98 _____ 98　　23 _____ 32　　45 _____ 50

77 _____ 76　　42 _____ 42　　87 _____ 89

6 Fill numbers in the blanks.



(1) There are _____ ; there are _____ ; there are _____ .

(2) There are _____ more than .

There are _____ less than .

7 Fill >, <, or = in the line.

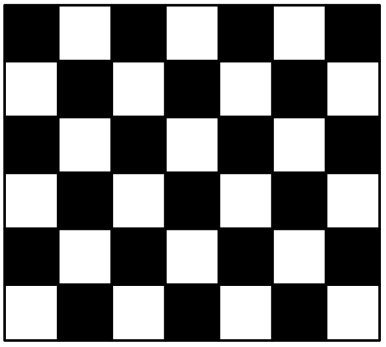
23 _____ 30

72 _____ 79

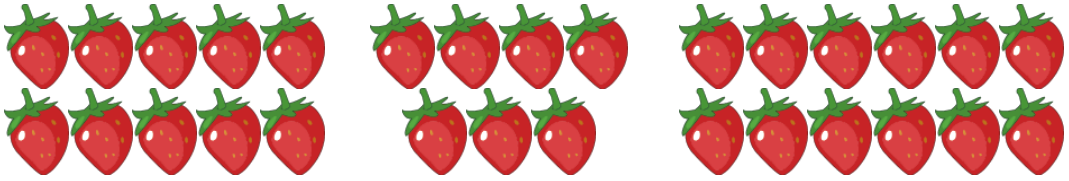
17 _____ 25

8 Compare and fill "<", ">", or "=" in the blank.

The amount of black squares _____ The amount of white squares



9 Fill numbers in the blanks.



(_____) (_____) (_____)

(_____) < (_____) < (_____)

10 Fill >, <, or = in the blanks.

75 _____ 57

65 _____ 56

47 _____ 74

11 Fill >, <, or = in the lines.

28 _____ 82

12 _____ 23

43 _____ 65

12 Which basket has the most apples?

A.

B.

C.

13 Fill numbers in the blanks.

3	2	6	12	4	15	9	17	8

There are _____ cards all together, the largest number is _____ .

14 There are 4 number cards on the table. Can you use them to make numbers?

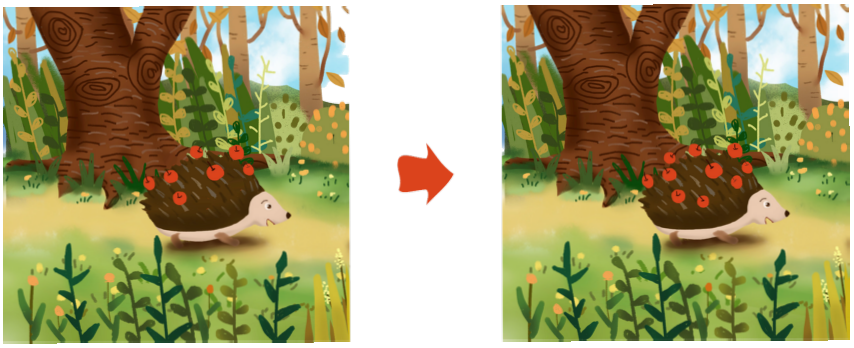
(1) The largest two-digit number can be formed is _____ .

The smallest two-digit number can be formed is _____ .

(2) The largest three-digit number can be formed is _____ .

The smallest three-digit number can be formed is _____ .

15 The hedgehog got _____ more apples on the way.



1 2

16 Fill >, <, or = in the blanks.

25 _____ 69 71 + 7 _____ 85 16 – 5 _____ 15 – 6

17 Fill numbers in the blanks.

Apple with the largest number is _____ ; apple with the smallest number is _____ .

18 There are _____ more yellow cars than red cars.

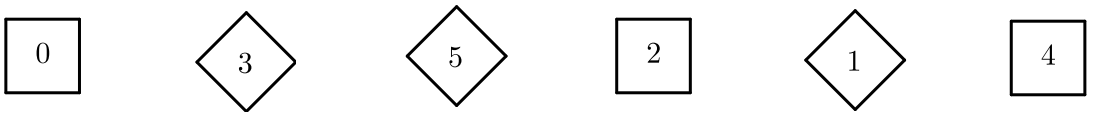
19 Among 13, 25, 9, 41, 15, and 67, the largest number is _____ , the smallest number is _____ .

20 Compare:

25 _____ 52 47 _____ 49 11 _____ 31

65 _____ 56 39 _____ 39 90 _____ 19

21 Fill in the blanks with the numbers below.



(1) The smallest number is _____ , the largest number is _____ .

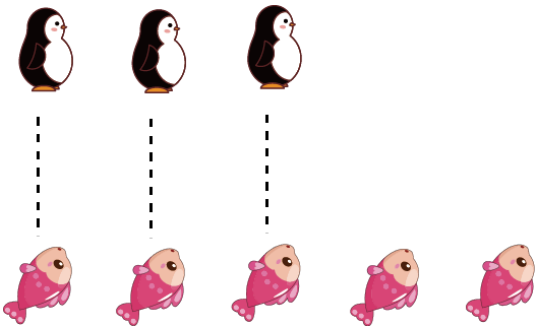
(2) _____ are smaller than 4.

(3) _____ are larger than 2.

(4) Fill numbers in the blanks.

_____ > _____ > _____ > _____ > _____ > _____ .

22 Compare the number of the animals below.



A. There are more than .

B. There are less than .

23 Compare and fill "<" or ">" in the radish.

19		21	60		50	49		51
40		10	9		39	43		52

24 Fill in the blanks with the numbers on the card.

(1) The largest number is _____ , the smallest number is _____ .

(2) _____ is the closest number to 4, _____ is the closest number to 1.

(3) _____ are larger than 3.

25 Order the numbers from least to greatest.

_____ < _____ < _____ < _____ < _____ < _____

26

(1)

animal				
amount	_____	_____	_____	_____

(2) _____ are the most, and _____ are the least.

(3) There are _____ more than .

27 Nancy has 4 number cards on the table and she wants to use them to make numbers. (The number card cannot be rotated.)

The largest three-digit number can be formed is _____ .

The smallest three-digit number can be formed is _____ .

28 Fill numbers in the blanks.

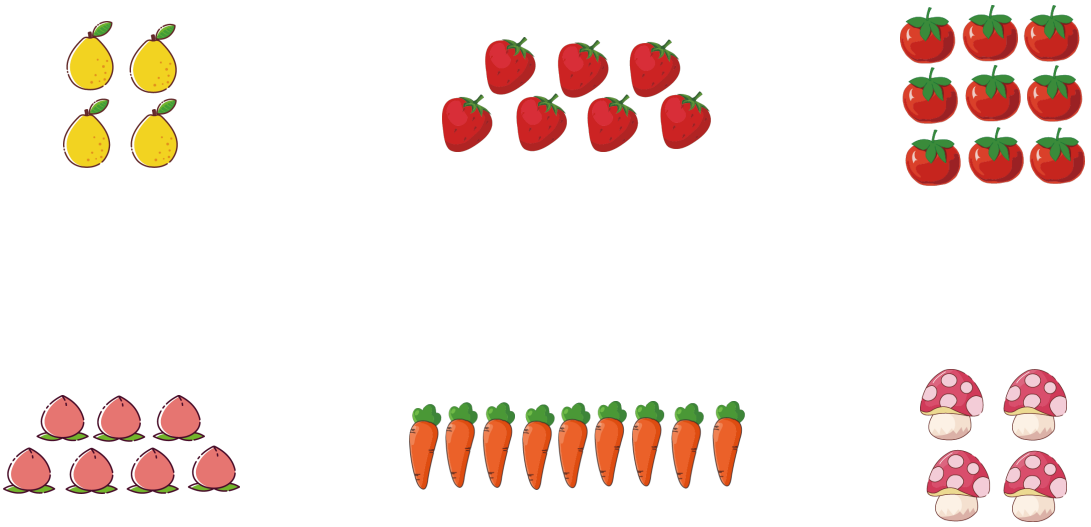
(1) Numbers that are larger than 60: _____ .

(2) Numbers that are smaller than 60: _____ .

(3) Numbers that are larger than 50 and smaller than 80:

_____ .

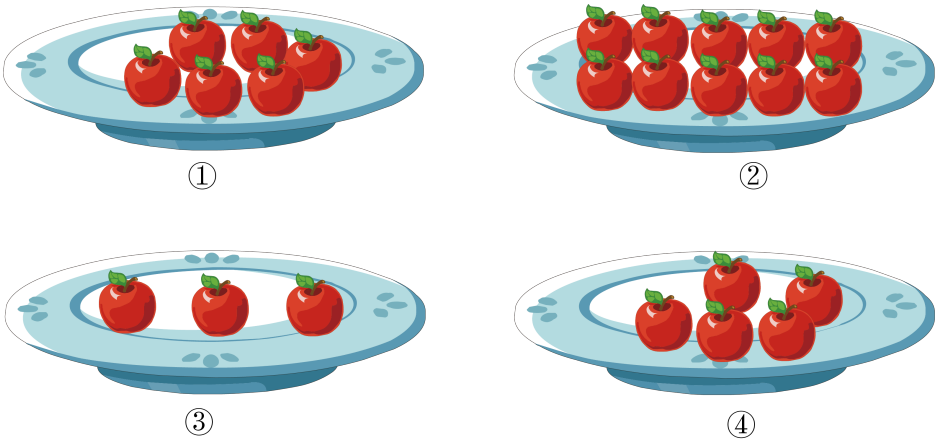
29 Match the vegetables or fruits with the same amount.



30 Choose 2 of the 3 cards to form two-digit numbers:

List the two-digit numbers which are smaller than 60.

31 Plate _____ has the most apples, and plate _____ has the fewest apples.

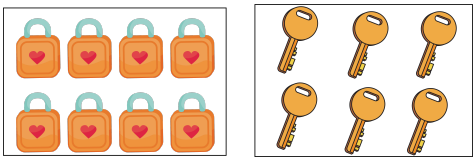


32 Among 12, 9, 7, 20, and 10, the largest number is _____ and the smallest number is _____ .

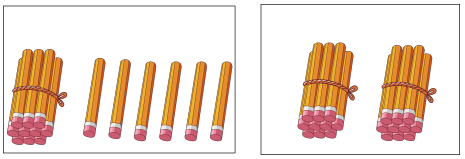
33 Order the numbers from least to greatest.

_____ < _____ < _____ < _____ < _____

34 Fill numbers in the _____ and fill > or < in the ○.



_____ ○ _____



_____ ○ _____

35 Compare the numbers below:

①41 ( ) 38 ; ②99 ( ) 100 ; ③27 ( ) 27 ; ④50 ( ) 15

A. ①> ; ②> ; ③> ; ④>

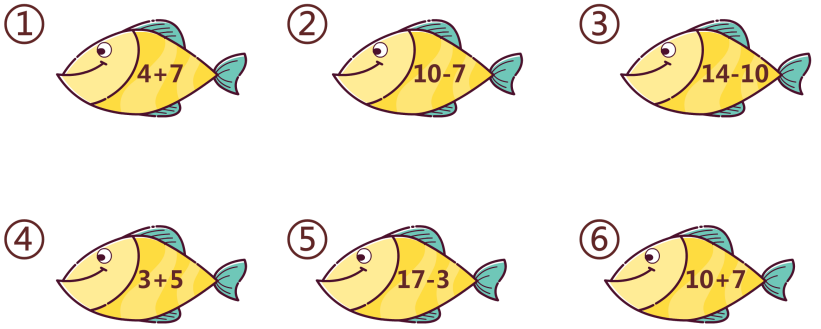
B. ①> ; ②< ; ③= ; ④>

C. ①< ; ②> ; ③< ; ④>

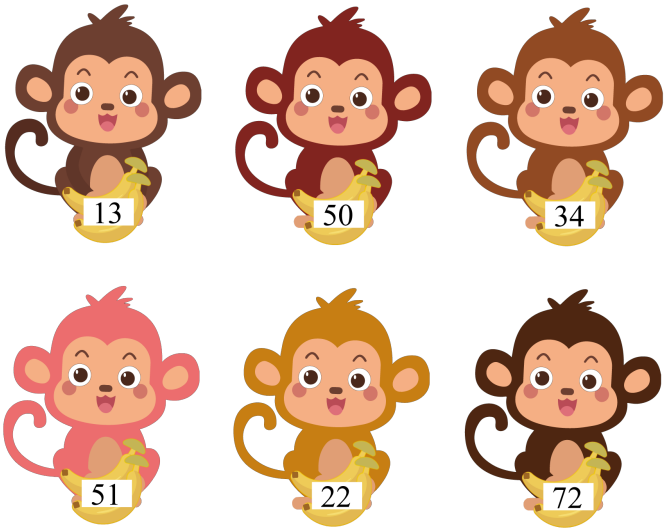
D. ①< ; ②< ; ③< ; ④<

36 Calculate and order the numbers on fish.

_____ > _____ > _____ > _____ > _____ > _____



37 Order the numbers from least to greatest.



_____ < _____ < _____ < _____ < _____ < _____

38 Fill >, <, or = in lines.

39 _____ 30

80 _____ 79

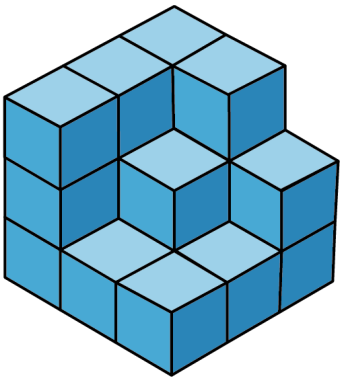
100 _____ 88

NOTE

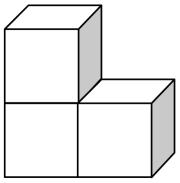
Geometry

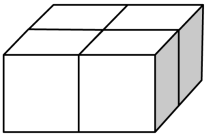
Counting Solid Shapes

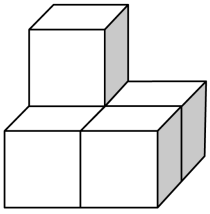
1 How many small cubes are there in the following figure?

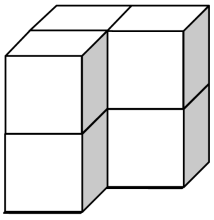


2 Which of the following figures is composed of five cubes?

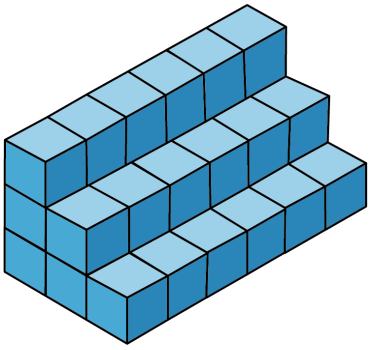
A. 

B. 

C. 

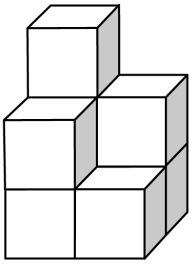
D. 

3 How many small cubes are there in the following figure?

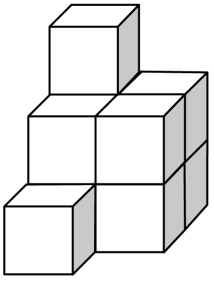


4 How many cubes were used to build each of the figures shown below?

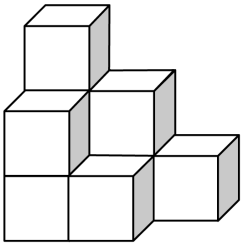
(1) _____ cubes.



(2) _____ cubes.

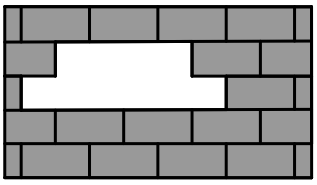


(3) _____ cubes.



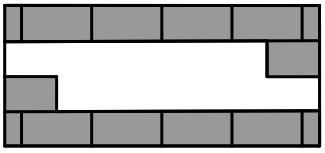
5 How many bricks are missing from the wall below?

(1)



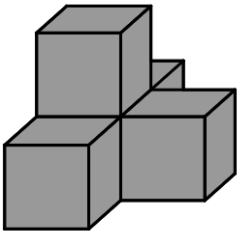
There are _____ bricks missing.

(2)

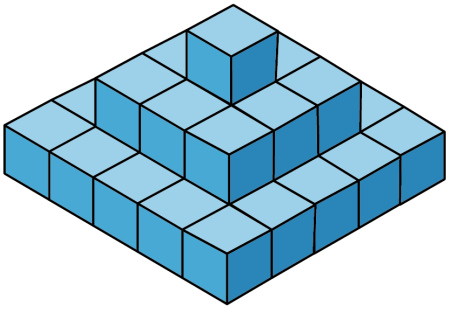


There are _____ bricks missing.

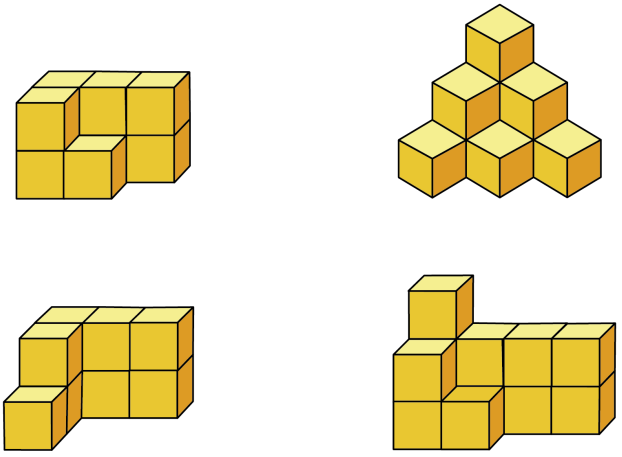
6 How many cubes are there in the figure below?



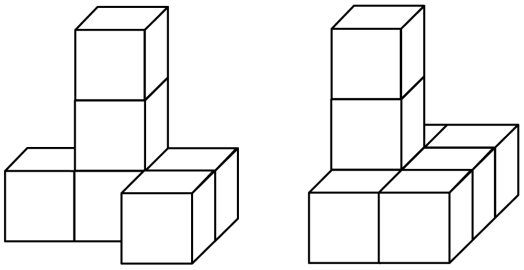
7 How many small cubes are there in the following figure?



8 How many small cubes are there in each of the following figures?

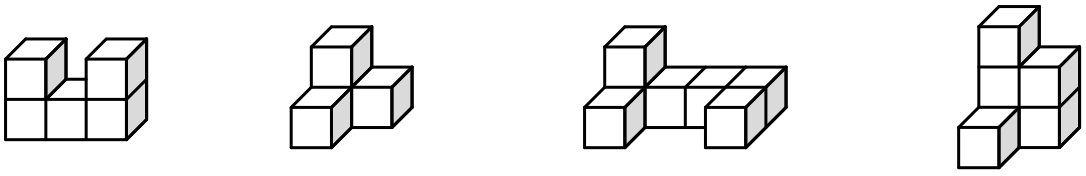


9 How many cubes were used to build each of the figures shown below?



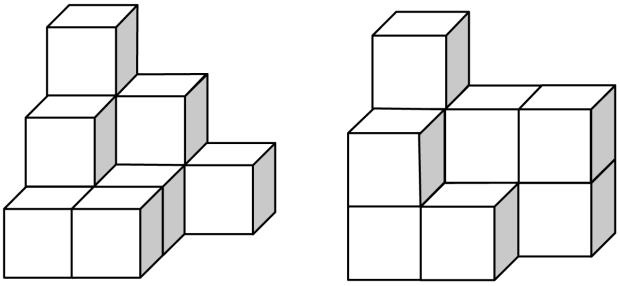
( ) ( )

10 How many cubes are there.



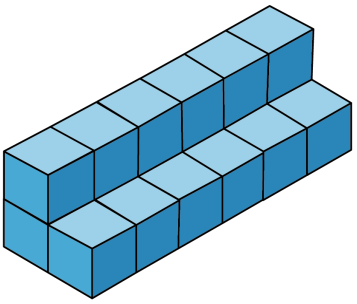
_____ _____ _____ _____

11 How many cubes were used to build each of the figures shown below?

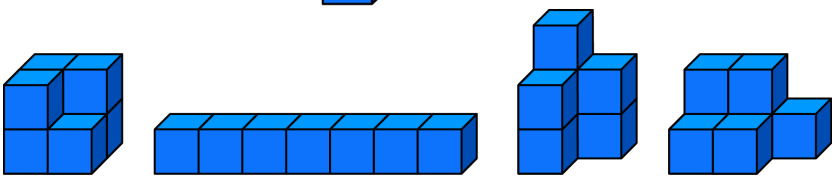


( ) ( )

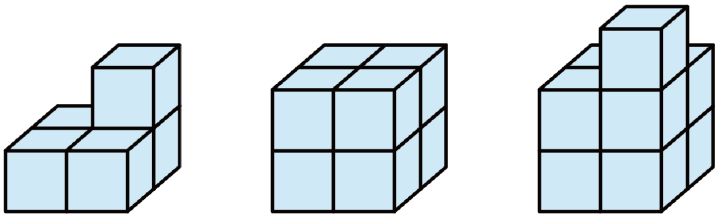
12 How many small cubes are there in the following figure?



13 Which solid figure has the most number of ?

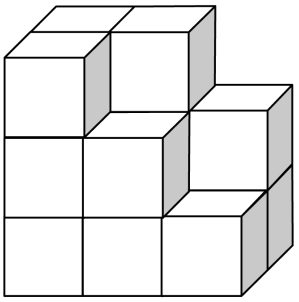


14 How many small cubes are there in each of the following figures?

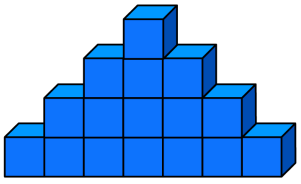


( ) ( ) ( )

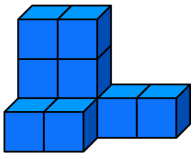
15 There are _____ cubes cannot be seen.



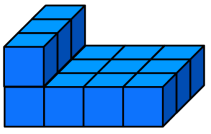
16 Which solid figure has the most number of ?



(1)

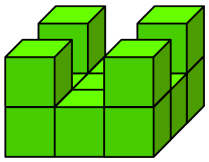


(2)

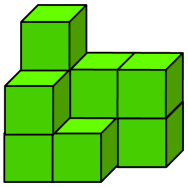


(3)

17 How many cubes were used to build each of the figures shown below?



_____



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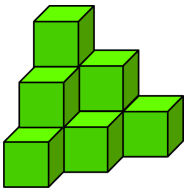

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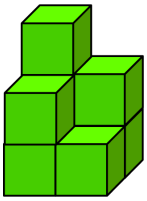

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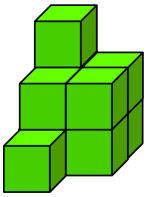

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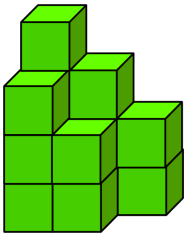
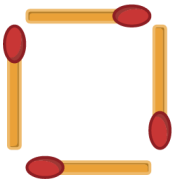
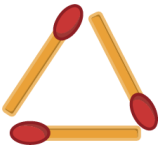


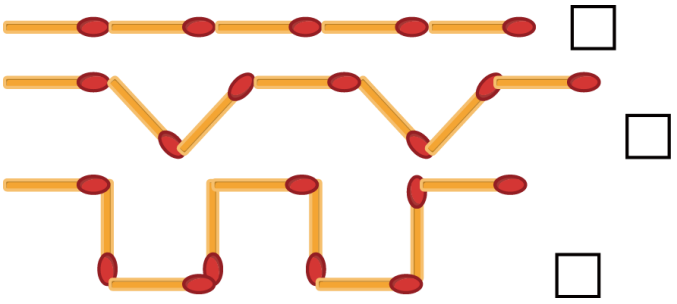
_____

Matchsticks

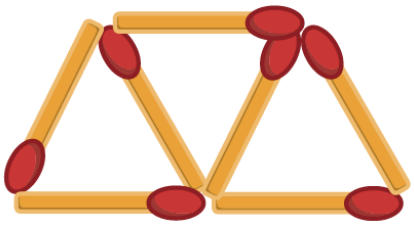
1 Use matchsticks to form shapes. Forming two  and a 

needs at least _____ matchsticks.

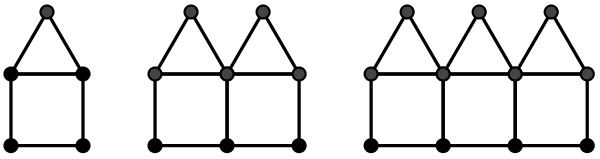
2 Which is made of the most matchsticks? Draw "√" in the box.



3 Add 2 more matchsticks to form five triangles in total.



4 Build houses using matchsticks.

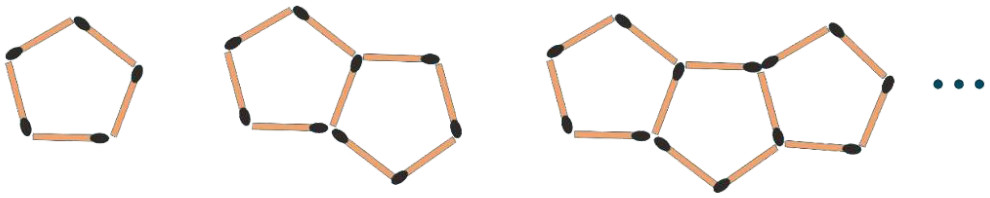


Building one house needs _____ matchsticks.

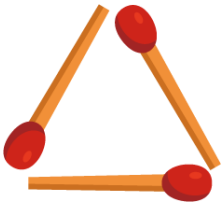
Building two houses needs _____ matchsticks.

Building four houses needs _____ matchsticks.

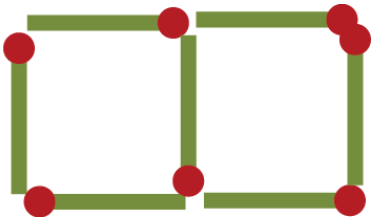
5 According to the pattern below, 17 matchsticks can form _____ pentagons at most.



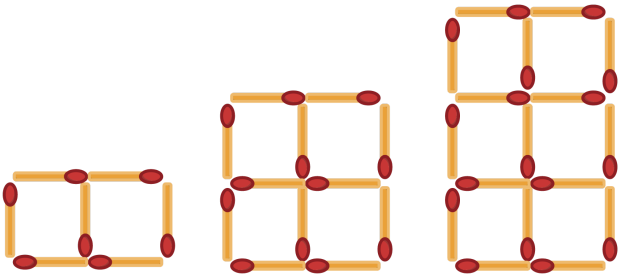
6 Here is a triangle formed with 3 matchsticks. We should add _____ matchsticks at least to form two triangles in total.



7 Here are two squares formed by 7 matchsticks. Add 3 more matchsticks and make three squares in total.



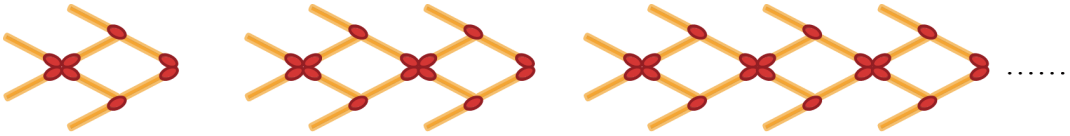
8 Count the number of matchsticks in each figure below, and fill in the table.

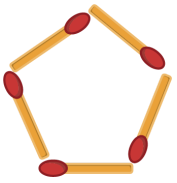


① ② ③

Figure	①	②	③
Number of Matchsticks	_____	_____	_____

9 Make fish using matchsticks. Making one fish needs 8 matchsticks. Making two fish needs 14 matchsticks. According to the figure below, making 4 fish needs _____ matchsticks.



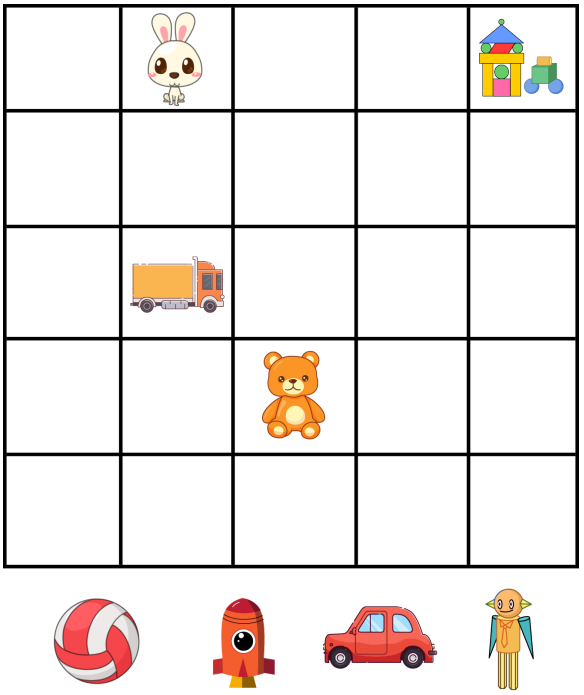
10 Use matchsticks to form shapes. Forming a  and a

needs at least _____ matchsticks.

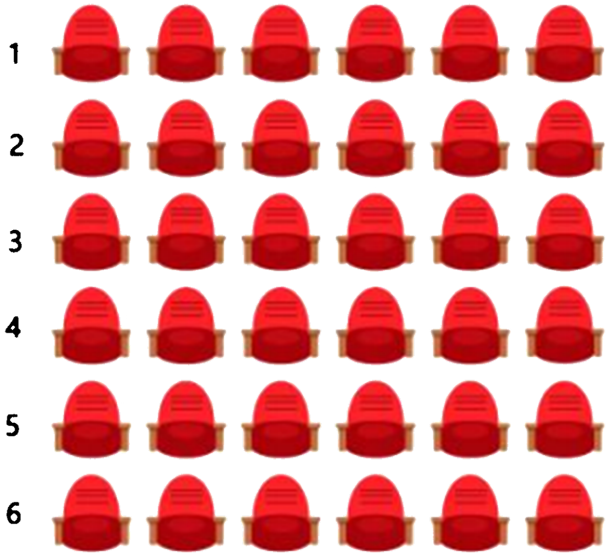
Direction and Place

1 According to the following clues, fill the toys below in the grid.

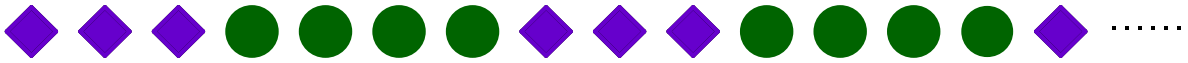
a. The bunny is above the rocket.
b. The ball is to the right of the truck.
c. The car is to the left of the blocks.
d. The robot is under the toy bear.



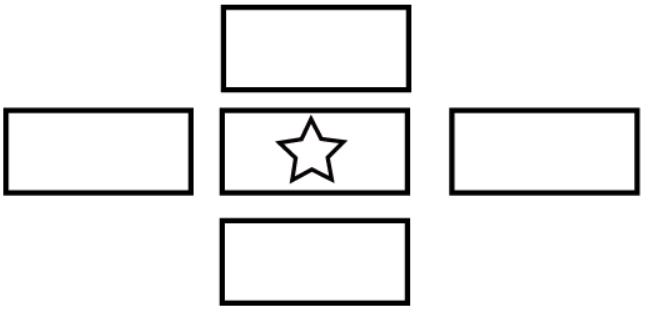
2 Anto is sitting in the fifth row. Counting from left, his seat is the fourth one. Circle the seat of Anto.



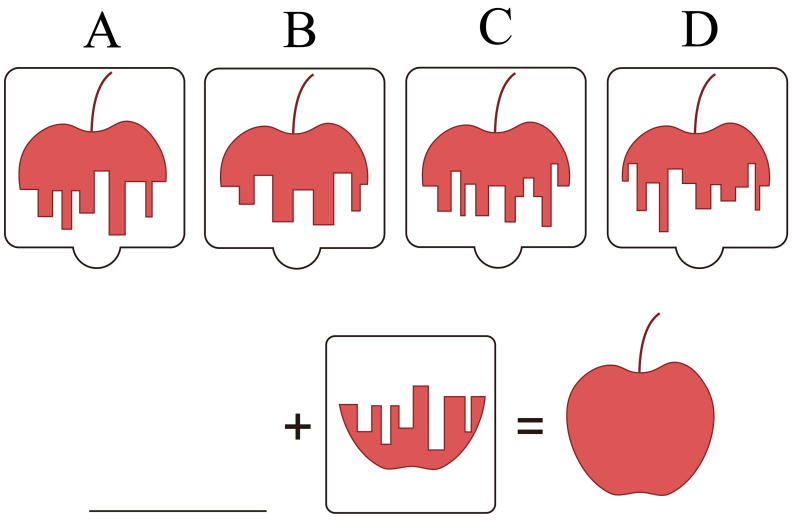
3 Count from the left. What is the 17th figure?



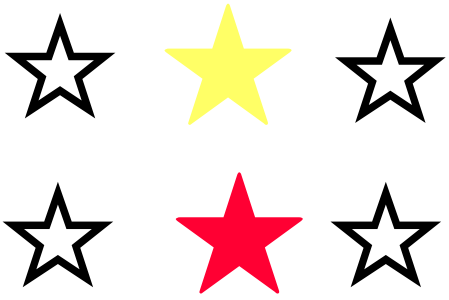
4 Draw 🍎 above ☆, 🍌 under ☆, 🍓 on the left side of ☆ , and 🍐 on the right side of ☆.



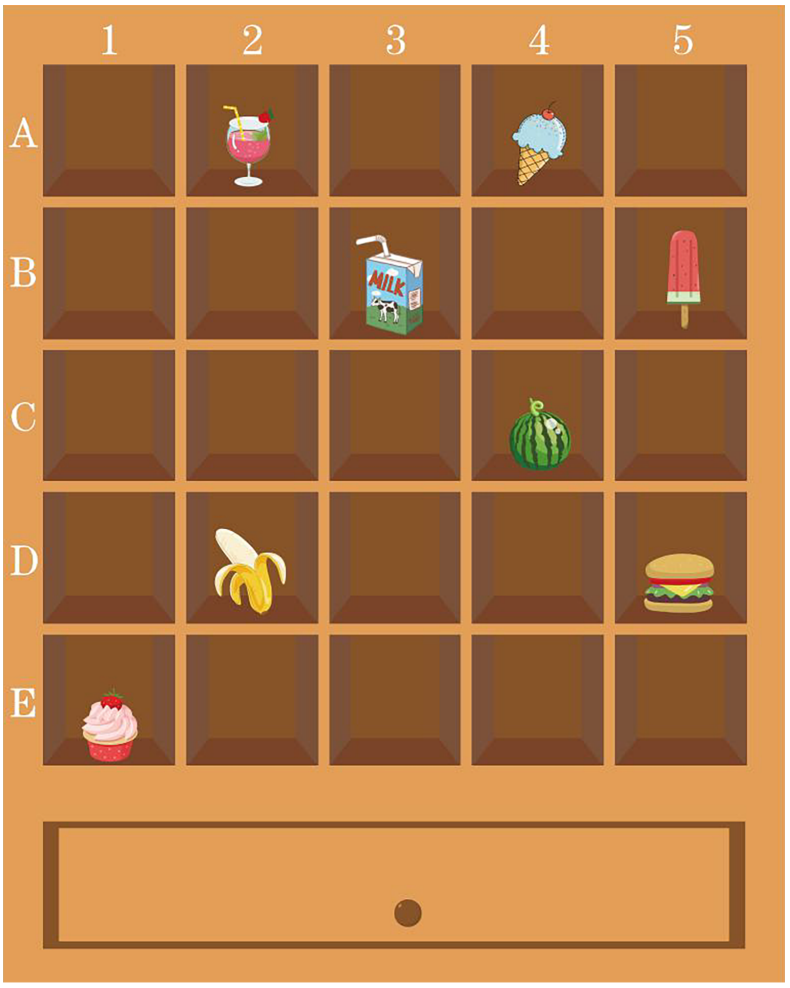
5 Let's do addition with shapes! Fill in the blank for the equation below.



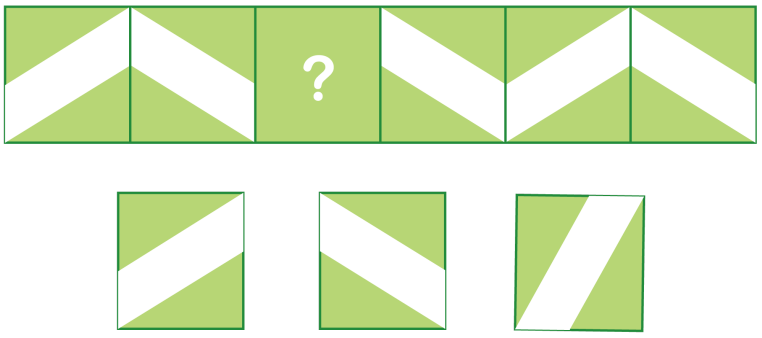
6 Color the star on the right side of the yellow star in green, the star on the left side of the yellow star in orange, the star on the right side of the red star in yellow, and the star on the left side of the red star in green.



7 Where are these items in the shelf? Fill in the blanks with its location code (an example is given).



8 A tile falls off the wall. Jack has three extra tiles (as shown in the figure below). Which tile fits the pattern?



tile a **tile b** **tile c**

A. only a
B. only b
C. only c
D. all three of them fit

Symmetry

1 Which one is not a symmetric shape?

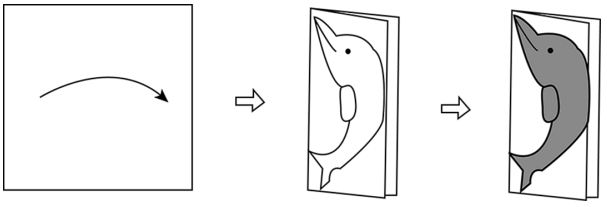
A.

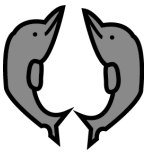
B.

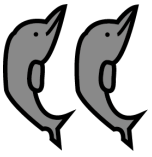
C.

D.

2 Fold the paper and cut out the shaded shape as shown below. Then, if you unfold this piece of paper, what will it look like?



A. 

B. 

C.

D.

3 Each shape in the left can match perfectly with a paper in the right. Choose the correct paper of the left shapes.

1.

2.

3.

4.

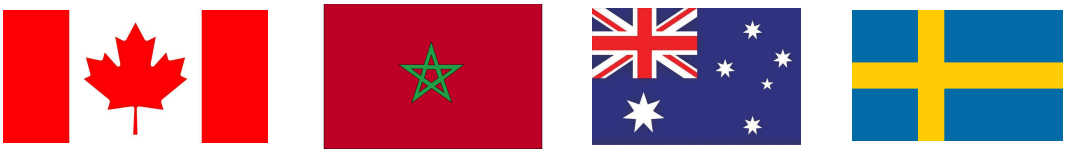
A.

B.

C.

D.

4 There are some flags. The number of symmetric shape is _____ .



A. 1 B. 2 C. 3

5 There are some traffic signs. The number of symmetric shape is _____ .

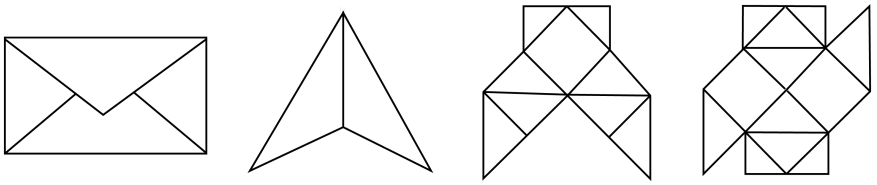
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

A. 3 B. 4 C. 5

6 The number of symmetric shapes is _____ .

A. 4 B. 3 C. 2 D. 1

7 The number of symmetrical shapes shown below is _____ .



A. 1 B. 2 C. 3 D. 4

8 Which one is not a symmetrical shape?

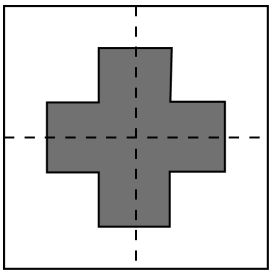
A.

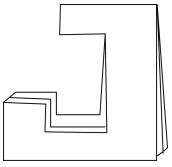
B.

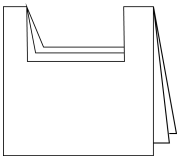
C.

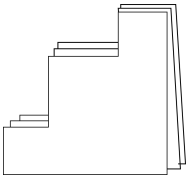
D.

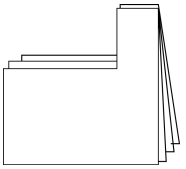
9 Fold the paper and cut out the middle part, what will it look like?



A. 

B. 

C. 

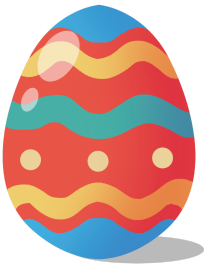
D. 

NOTE

Word Problems

2-step Word Problems

1 Easter Day is coming. Sissy draws 2 eggs for her mom and dad. Her friend Frank draws 5 more eggs than her. How many eggs do they draw in total?



2 Jack will go to primary school tomorrow. He needs to bring 5 textbooks. He has packed 3 textbooks, and mom has packed 4 textbooks for him. How many more textbooks have they prepared than he need?

3 Zack has 10 toy cars. Zack has 3 more toy cars than Sara. Sophie has 2 more toy cars than Sara. How many toy cars do they have in total?

4 Sherry has 7 lollipops, Olivia gives Sherry 5 lollipops, and then Sherry gives Jason 3 lollipops. How many lollipops does Sherry have now?

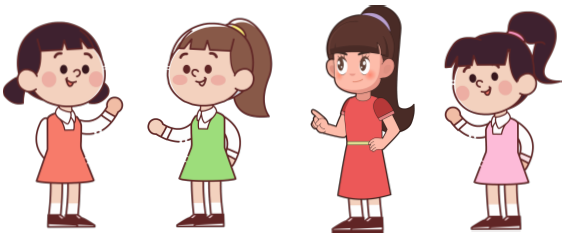
Step 1: After Olivia giving Sherry 5 lollipops, how many lollipops does Sherry have?

_____ _____ _____ = _____

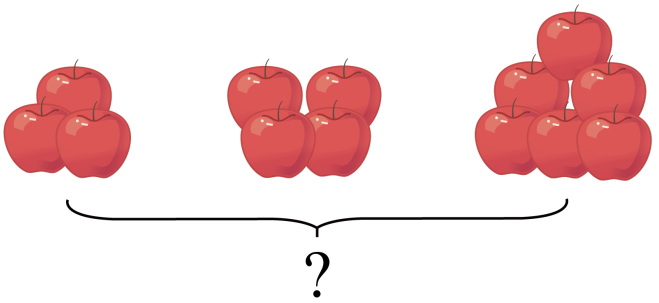
Step 1: After Sherry giving Jason 3 lollipops, how many lollipops does Sherry have?

_____ _____ _____ = _____

5 Sherry bought 10 notebooks. Olivia bought 5 more notebooks than Sherry. Jade bought 10 more notebooks than Olivia. Tina bought 15 more notebooks than Jade. Between Tina and Sherry, who bought more notebooks, and how many more notebooks did she buy?

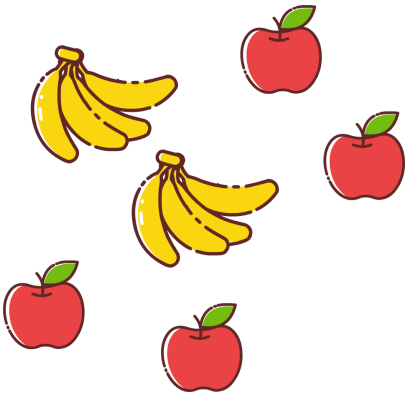


6 Sana has 3 apples, Joann gives her 4 apples, and then Hannah gives her 6 apples. How many apples does Sana have in total?

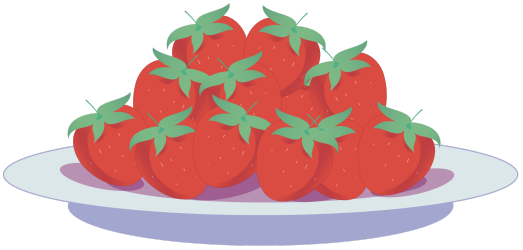


□ ○ □ ○ □ = □

7 The fruit shop had 80 kg of bananas. In the morning, the owner bought 50 kg of apples. In the afternoon, the owner sold 20 kg of fruits. How many kilograms of fruits does the fruit shop have now?

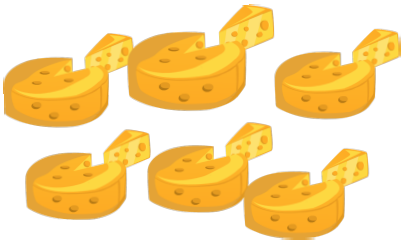


8 Eddie has 25 strawberries, and Bob has 8 fewer strawberries than Eddie. How many strawberries does Bob have?

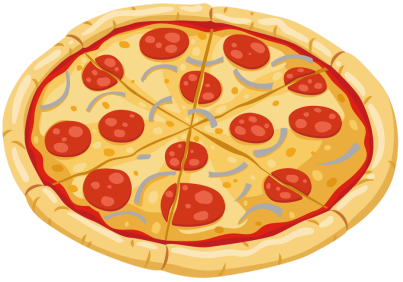


A. 29 B. 17 C. 15 D. 13

9 Little bear used to have 37 pieces of honey cakes. Little mouse ate 21 pieces of little bear's cakes. How many fewer pieces of cakes does little bear now have than the cakes eaten by little mouse?



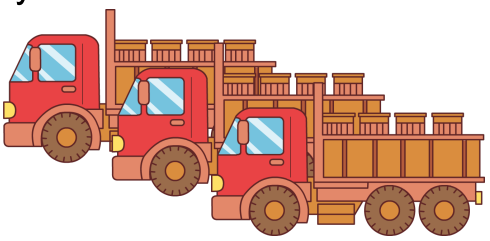
10 Breet and Eddy are eating pizza. Breet eats 3 pieces of pizza, and Eddy eats 5 more pieces than Breet. In total, how many pieces of pizza do they eat?



11 A number minus 6 equals 9. What is this number?

12 A number plus 6 is equal to 17. What is this number?

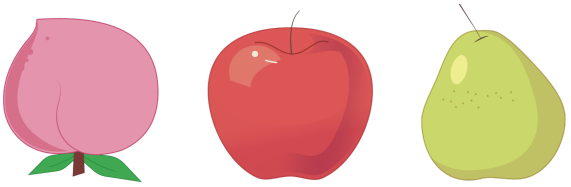
13 The first car carries 56 bags of rice. The second car carries 28 more bags than the first car. The third car carries 36 fewer bags than the second car. How many bags of rice does the third car carry?



14 Lucas draws eggs in the Easter Day. He draws 8 red eggs and 7 more yellow eggs than red eggs. How many eggs does he draw in total?

15 Didi the dog has 12 bones, and Jojo has 3 more bones than Didi. How many bones do they have in total?

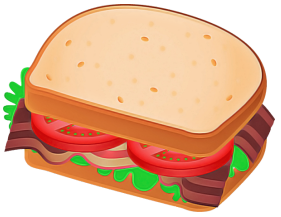
16 Lucas went to the shop. He bought 3 peaches and 7 pears. The number of peaches he bought was 5 less than that of apples. How many fruits did he buy in total?



17 Andy bought 12 books, and Emma bought 4 less books than Andy. How many books did they bought in total? Write equations to find the answer.

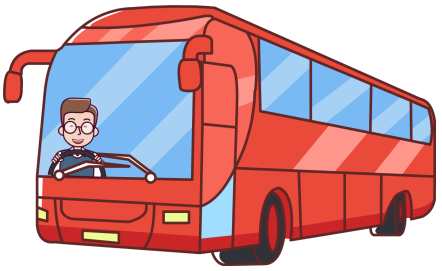
18 Sherry used to have 42 lollipops, and she gave Olivia 16 lollipops. How many fewer lollipops did Sherry give to Olivia than the lollipops she has now?

19 Sara eats 18 sandwiches. Jack eats 7 fewer than Sara. Mark eats 6 fewer than Jack. How many sandwiches does Mark eat?



20 Jack has 10 basketballs. Mark has 5 more basketballs than Jack. Jack has 5 more basketballs than Lucy. How many basketballs do they have in total?

21 There were 32 passengers on the bus. At a certain station, 10 passengers got off and 16 passengers got on. How many passengers are there on the bus now ?



22 Today is Children's Day. Sissy has 6 gifts, her sister gives her 3 gifts, and then Sissy gives her brother 4 gifts. How many gifts does she have now?

Lining Up

1. Amy is shopping in a store. At the cashier, there are 9 people in front of her. Counting from the back, she is in the 15th place. How many people are there in total lining up?

2. Cindy and Joe are standing in a line. There are 3 people in front of Cindy, and 3 people behind Joe. Joe is right behind Cindy (no one is between them). How many people are there in the line in total?

   A. 6 B. 7 C. 8 D. 9

3. Nate is standing in a line to get some food. Counting from the front, he is the 9th person in the line. Counting from the back, he is the 3rd one. How many people are there lining up?

   A. 10 B. 11 C. 12 D. 13

4 Lucas is on the way to school. As he is waiting in line to get on the bus, there are 4 people in front of him, and 5 people behind him. In total, how many people are there in the line?

5 Some kangaroos are lining at bakery. Tom is the third from the back, and the fifth from the front. How many kangaroos are there lining up in total?

A. 8 B. 7 C. 6 D. 5

6 Some students are lining at bookstore. Mike is the second from the back, and the sixth from the front. How many students are there lining up in total?

A. 8 B. 7 C. 6 D. 5

7 Now, Lucas is sitting on the school bus. The bus is currently in a traffic jam. Many cars and buses are waiting in a line. Counting from the front of the line, the school bus is in the 4th place. Counting from the back, it is in the 9th place. In total, there are _____ vehicles on this road.

8 Julie is on the way back home. As she is waiting in line to get on the bus, there are 7 people in front of her, and 5 people behind her. In total, how many people are there in the line?

A. 8 B. 11 C. 12 D. 13

9 Bob is on the way to school. As he is waiting in line to get on the bus, there are 4 people in front of him, and 8 people behind him. In total, how many people are there in the line?

A. 8 B. 11 C. 12 D. 13

10 Anna is lining up to get some ice-cream. Counting from the front, she is the 4th in the line. Counting from the back, she is the 7th. How many people are there lining up?

A. 9 B. 10 C. 11 D. 12

11 Sissy is waiting in line to get on a bus. There are 9 people in front of her. Counting from the back, she is the 12th place. How many people are there in total lining up?

12 Brett is currently in a traffic jam. Many cars are waiting in a line. Counting from the front of the line, his car is in the 5th place. Counting from the back, it is in the 6th place. In total, there are _____ vehicles on this road.

13 Sibel is waiting in line to buy a ticket. There are 10 people in front of her. Counting from the back, she is the 14th place. How many people are there in total lining up?

14 Some students are lining up at the cafeteria. Ellie is the third from the back and the seventh from the front. How many students are there lining up in total?

A. 9 B. 7 C. 8 D. 5

15 Nancy is waiting in line to get on the bus, there are 4 people in front of her, and 7 people behind her. In total, how many people are there in the line?

16 Selena is waiting in line to go to the movie, there are 8 people in front of her, and 6 people behind her. In total, how many people are there in the line?

17 Maddy and Cassie are standing in a line. There are 2 people in front of Maddy, and 6 people behind Cassie. Cassie is right behind Maddy (no one is between them). How many people are there in the line in total?

A. 6 B. 7 C. 9 D. 10

18 Nabi is lining up to get some drink. Counting from the front, she is the 8th in the line. Counting from the back, she is the 4th. How many people are there lining up?

A. 9 B. 10 C. 11 D. 12

19 Candice is on her way to school. As she is waiting in line to get on the bus, there are 10 people in front of her and 3 people behind her. In total, how many people are there in the line?

A. 12 B. 13 C. 14 D. 15

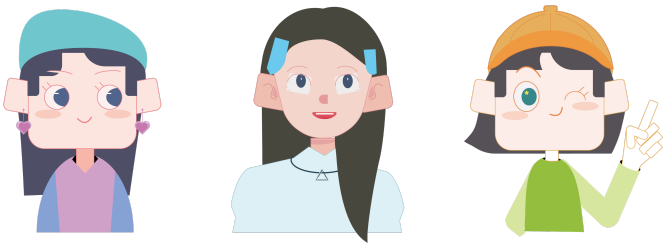
20 Yolan and Eve are standing in a line. There are 5 people in front of Yolan, and 2 people behind Eve. Eve is right behind Yolan (no one is between them). How many people are there in the line in total?

A. 6 B. 7 C. 8 D. 9

21 Eddy is waiting in a line in the bank. Counting from the front of the line, he is in the 7th place. Counting from the back, he is in the 7th place. In total, there are _____ people in this line.

Matching in Order

1 Linda, Nancy, and Cici are going to line up. How many different ways do they have? List all the possible ways.



2 There are three books, Chinese, Math, and English. Sissy wants to put them in the bookcase. How many ways are there for three books to put?

A. 6 B. 5 C. 4 D. 3

3 Anny, Eddie, and Breet are lining up. How many different ways do they have? List all the possbile ways.

4 Pig, rabbit, and fox are friends. They want to stand in line. How many different ways do they have?

A. 3 B. 4 C. 5 D. 6

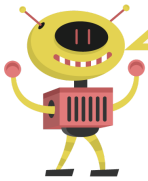
5 Mother, Father, and son are going to take family photos. They need to line up. How many different ways are there for them to line up? List out all the ways.

NOTE

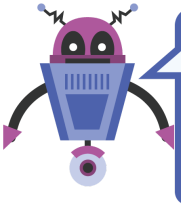
Logical Reasoning

Color Crush

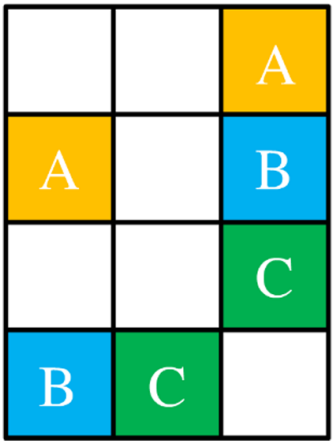
1 Let's complete the Color Crush according to the Color Crush rules.



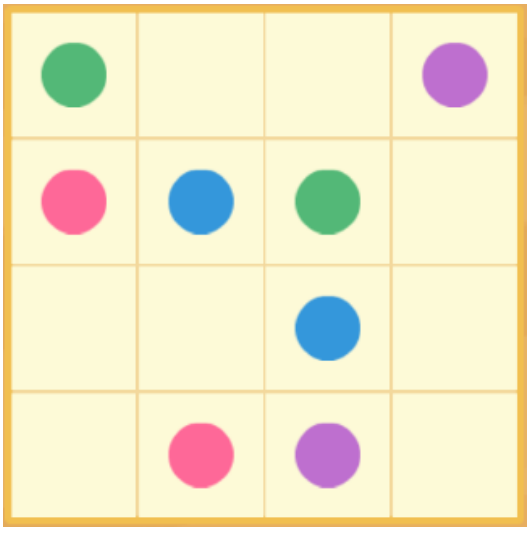
① Connect squares of the same color with a continuous line;
② Each line can only be drawn in four directions: up, down, left or right;
③ Each line cannot cross a colored square;



④ No branching or crossing of each connecting line;
⑤ All connecting lines must be drawn in uncolored squares, and all uncolored squares must be drawn by connecting lines.



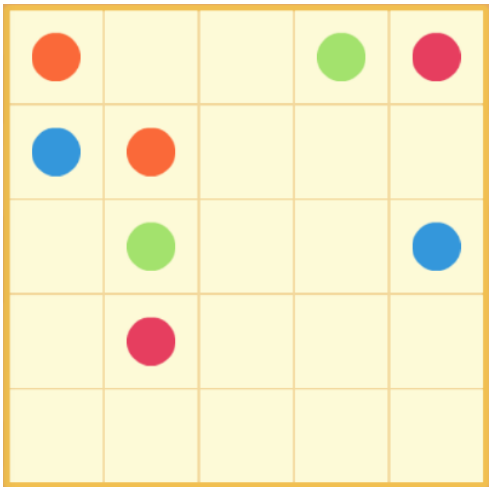
2 Let's complete the Color Crush according to the Color Crush rules.



3 Let's complete the Color Crush according to the Color Crush rules.

A	D				D
		B			B
E					A
	C				C
	F				F
					E

4 Let's complete the Color Crush according to the Color Crush rules.



5 Let's complete the Color Crush according to the Color Crush rules.

A				A
B	E			E
	D	C		
				C
		B		D

Sudoku

1 Piggies, lions, tigers, and pandas appear only once in each row, column, and block. Then, what animal should be filled in the place of the question mark?

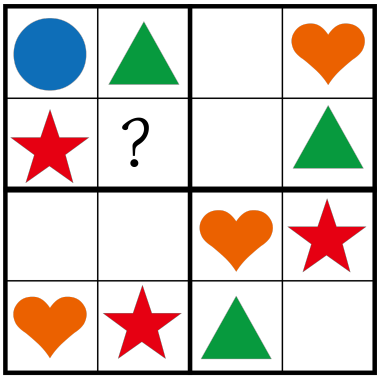
A.

B.

C.

D.

2 Fill in the space with four shapes so that each shape appears only once in each row, column, and block. What shape is covered by the question mark?



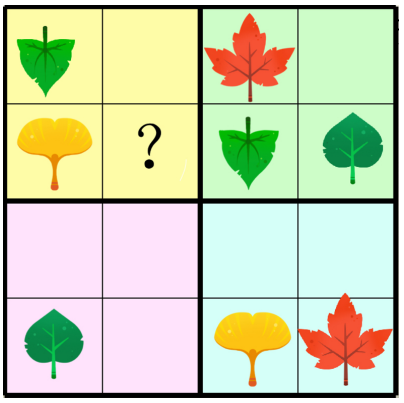
A.

B.

C.

D.

3 Buckwheat leaves, poplar leaves, ginkgo leaves, and maple leaves appear only once in each row, column, and block. Then, what leaf should be filled in the place of the question mark?



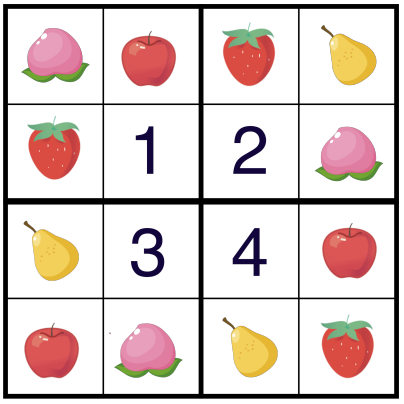
A.

B.

C.

D.

4 Peaches, apples, pears, and strawberries appear only once in each row, column, and block.



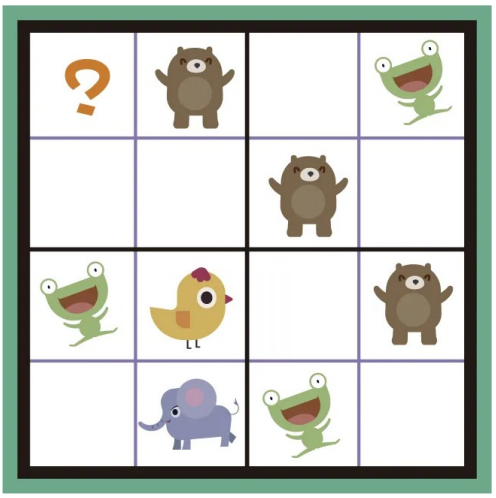
The 1 should be planted with _____ ;

The 2 should be planted with _____ ;

The 3 should be planted with _____ ;

The 4 should be planted with _____ .

5 Chicks, bears, elephants, and frogs appear only once in each row, column, and block. Then, what animal should be filled in the place of the question mark?



A.

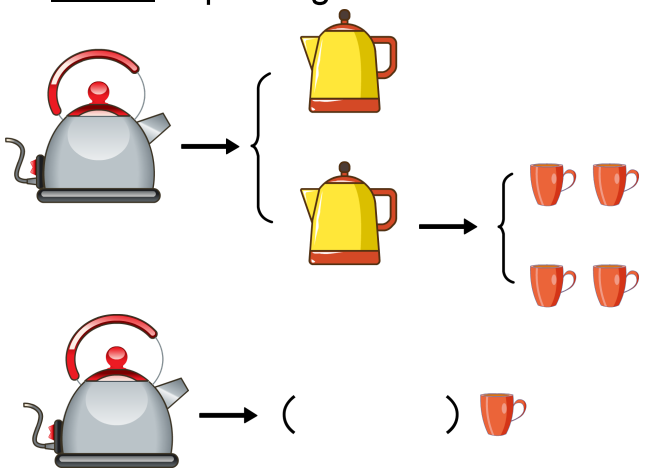
B.

C.

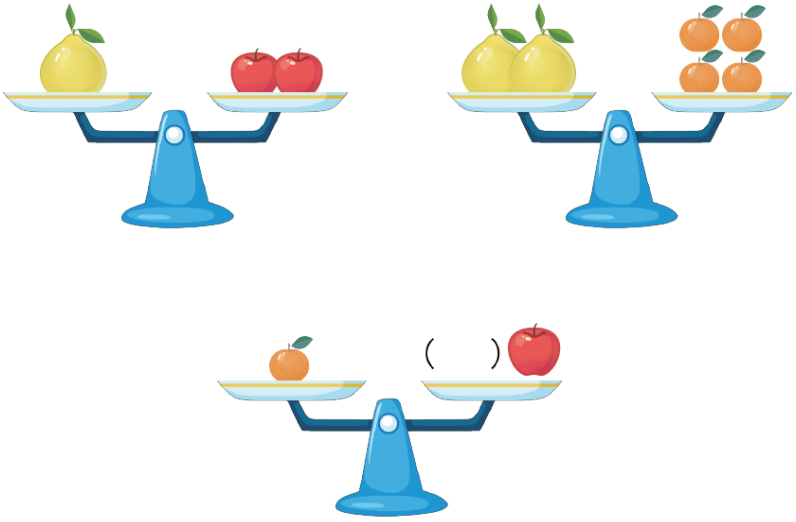
D.

Balance

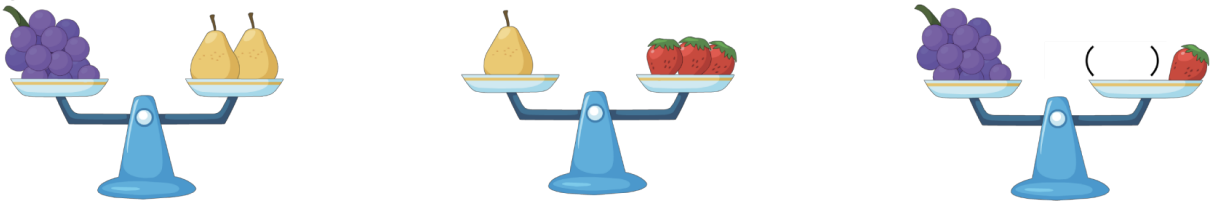
1 Observe the scales. _____ cups weigh the same as a kettle.



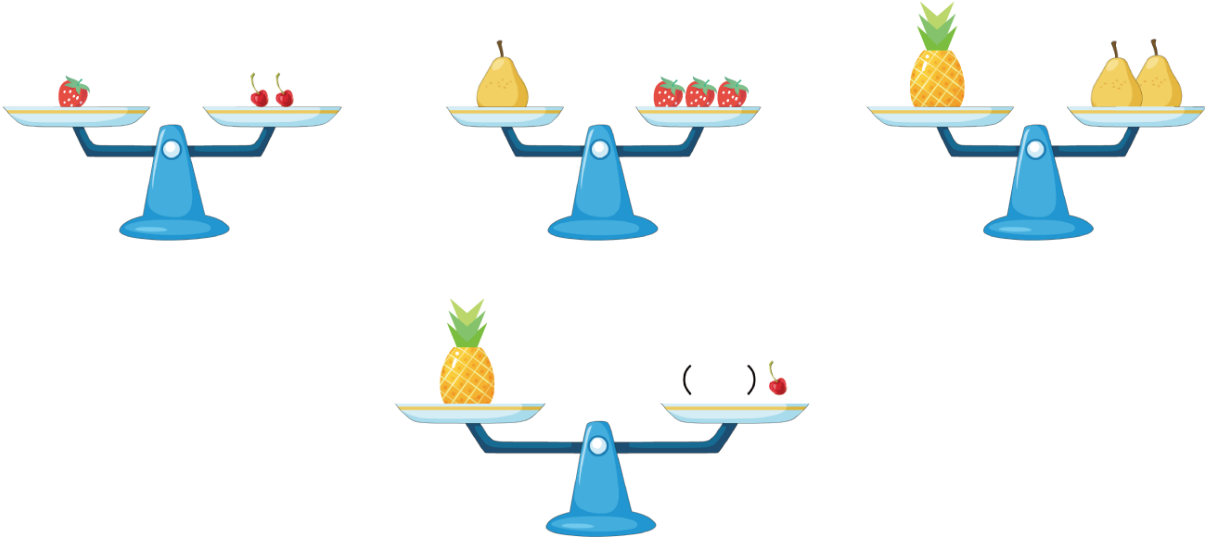
2 Observe the scales. _____ apple(s) weigh the same as an orange.



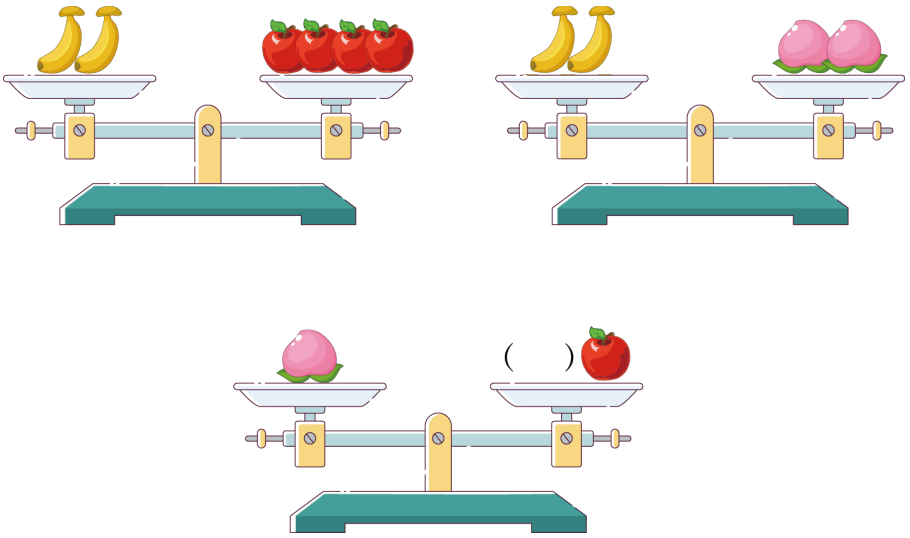
3 Observe the scales. _____ strawberries weigh the same as a bunch of grapes.



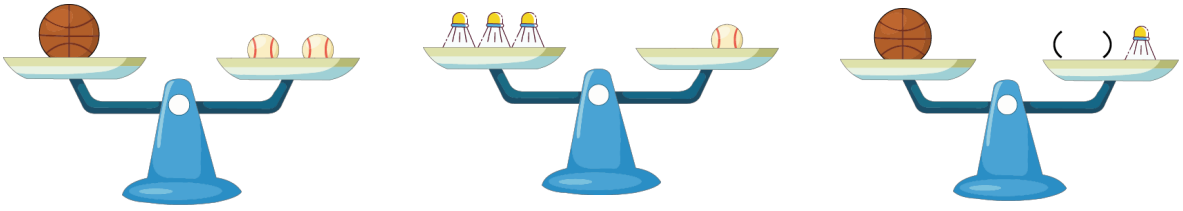
4 1 pineapple = _____ cherries.



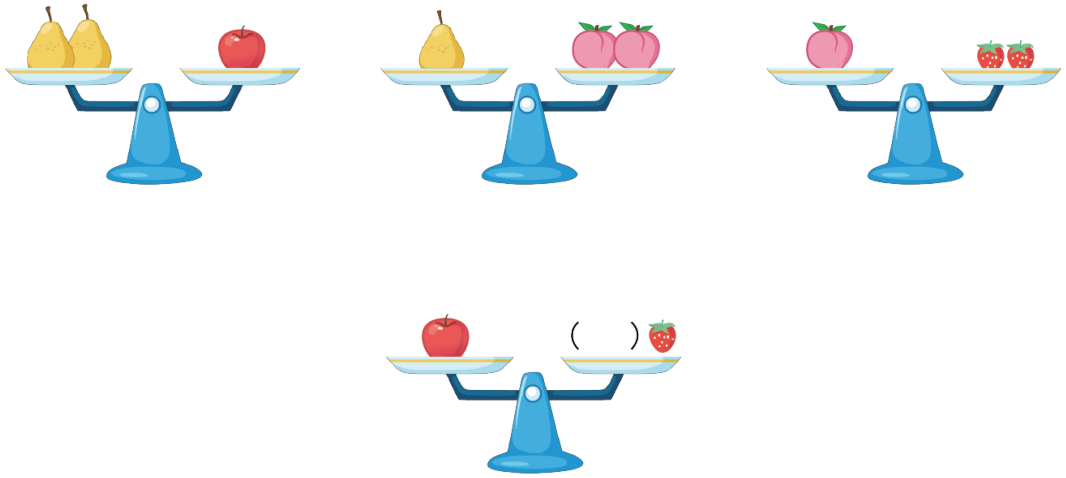
5 How many apples weigh the same as a peach? Fill the number in the blank.



6 Observe the scales. _____ badminton balls weigh the same as a basketball.

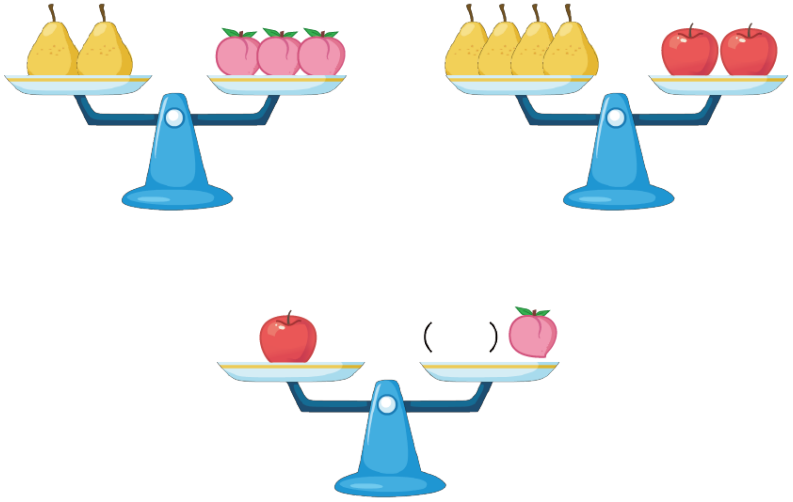


7 Observe the scales. _____ strawberries weigh the same as an apple.

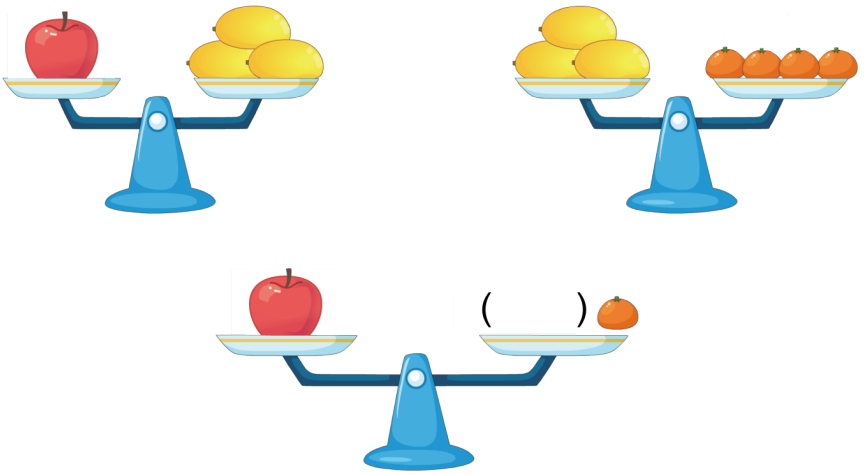


A. 3 B. 5 C. 8 D. 9

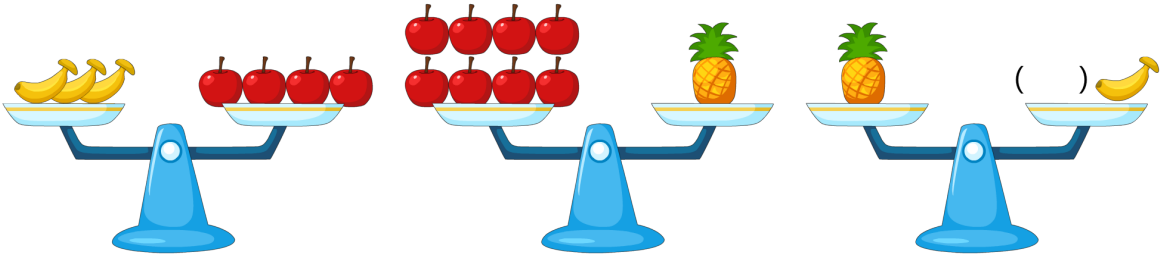
8 Observe the scales. _____ peach(es) weigh the same as an apple.



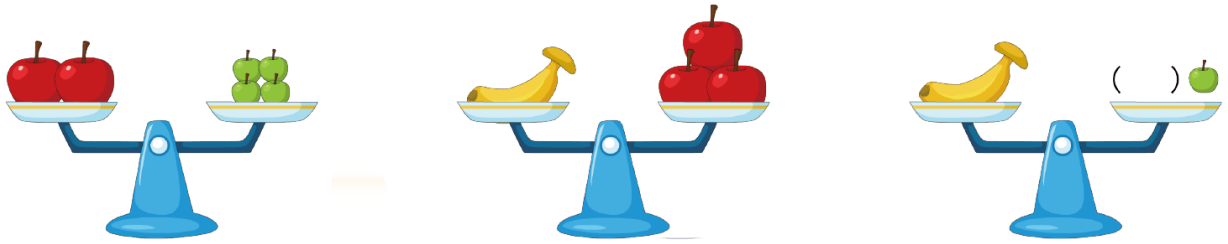
9 How many oranges weigh the same as an apple? Fill the number in the blank.



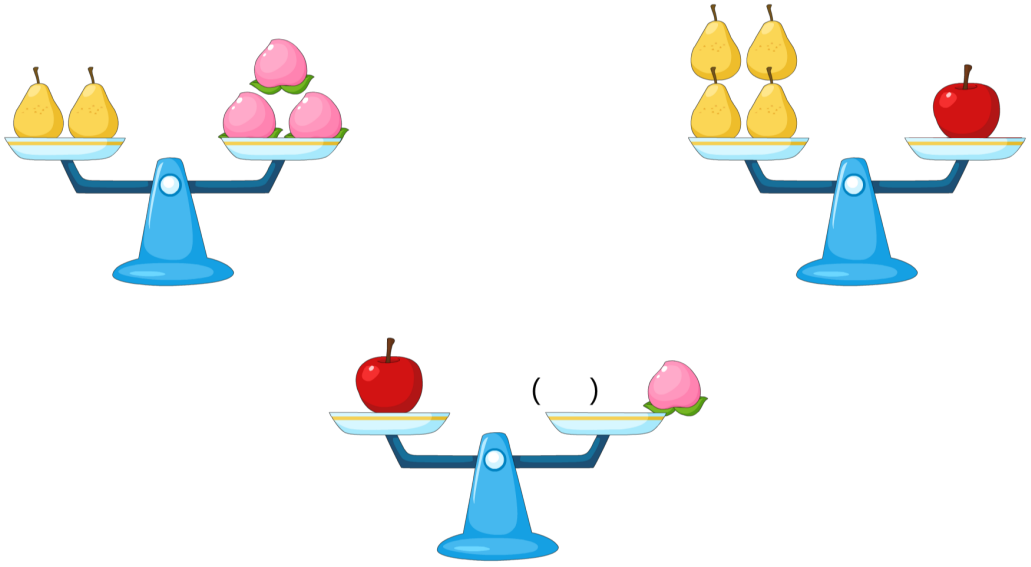
10 How many bananas weigh the same as a pineapple? Fill the number in the blank.



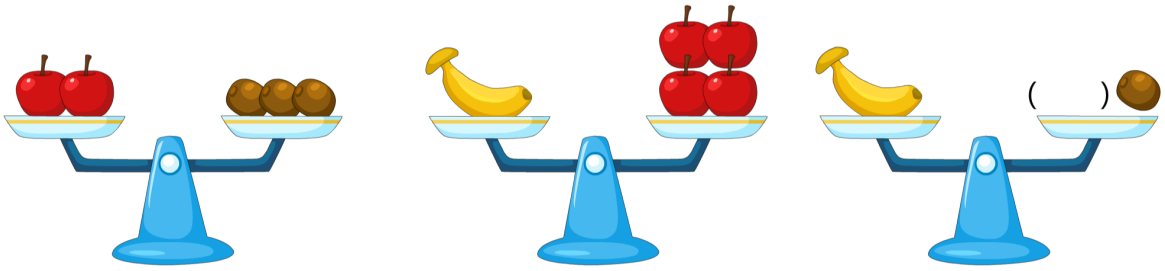
11 1 banana = _____ green apples.



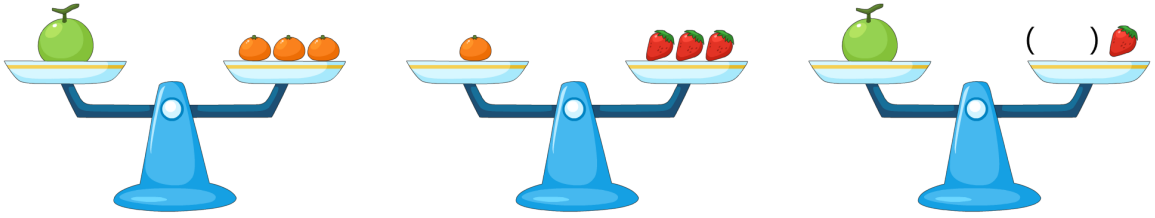
12 Observe the scales. How many peaches weigh the same as an apple?



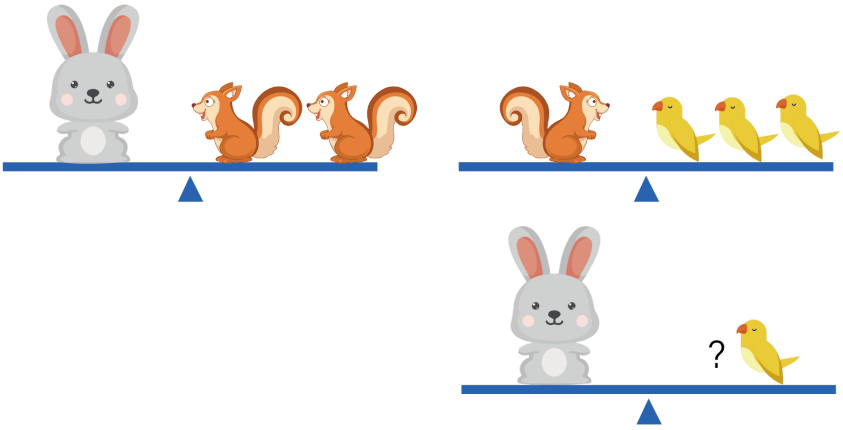
13 How many kiwis weigh the same as a banana? Fill the number in the blank.



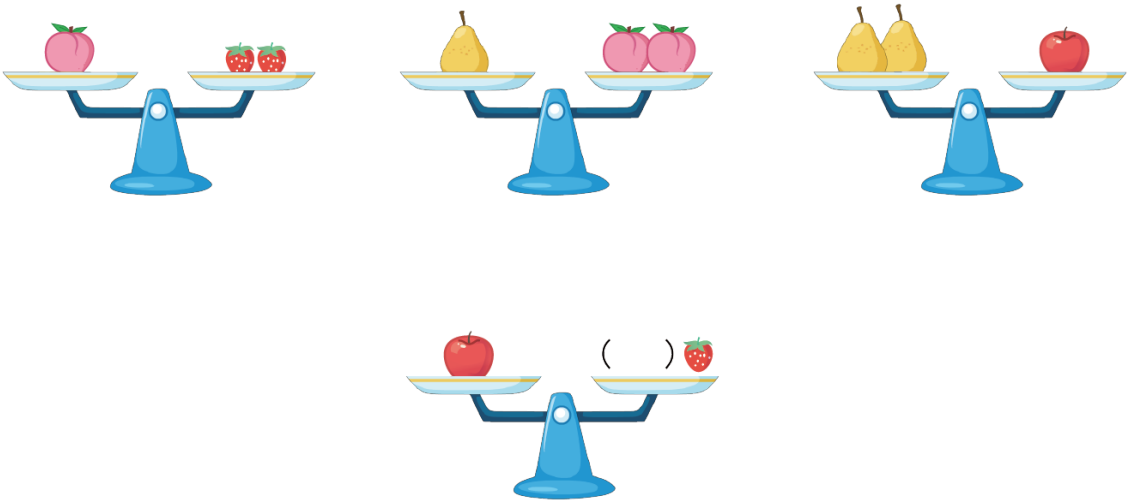
14 Observe the scales. _____ strawberries weigh the same as a melon.



15 How many birds are needed on the right side of the third scale to keep the scale balanced?

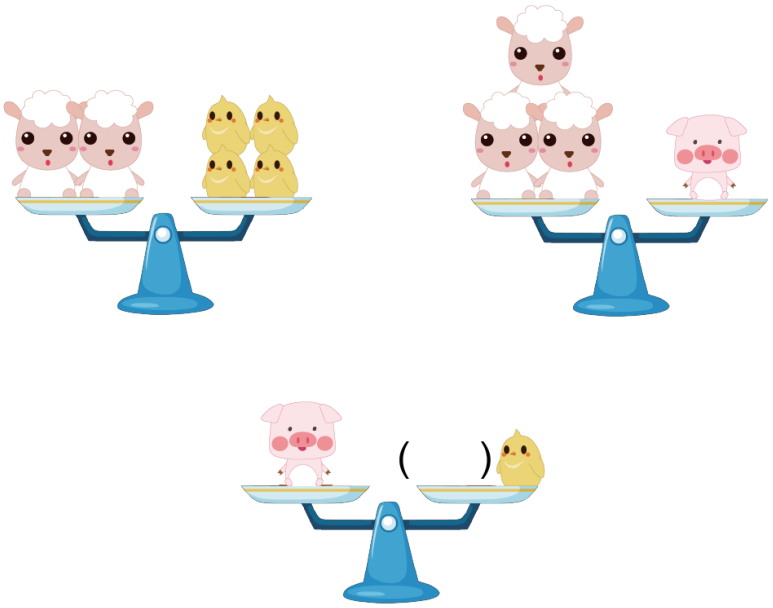


16 1 apple = _____ strawberries.

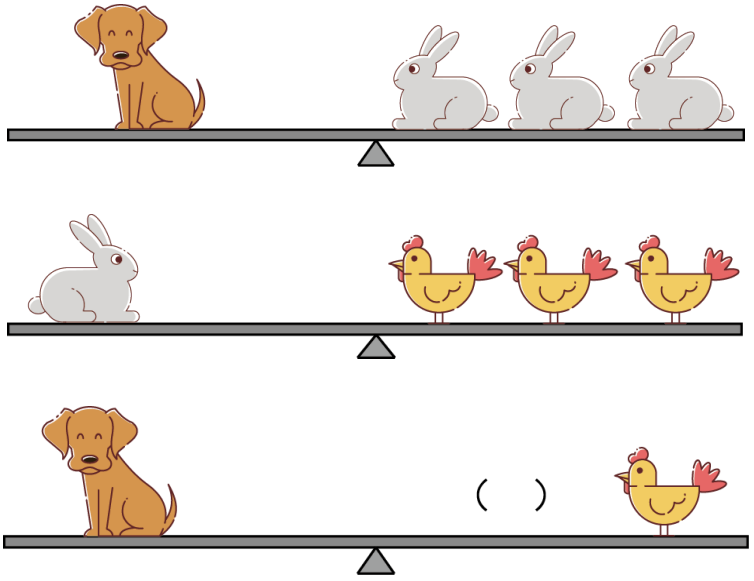


A. 3 B. 5 C. 8 D. 9

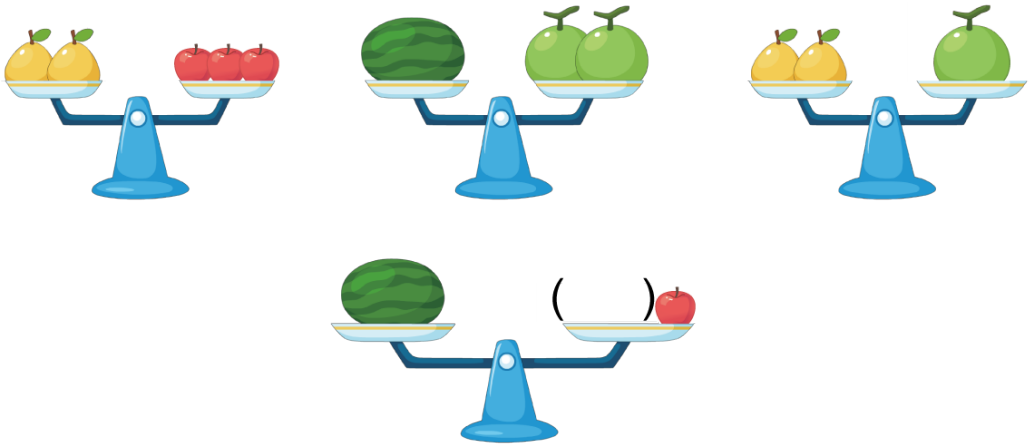
17 Observe the scales. _____ chicks weigh the same as a pig.



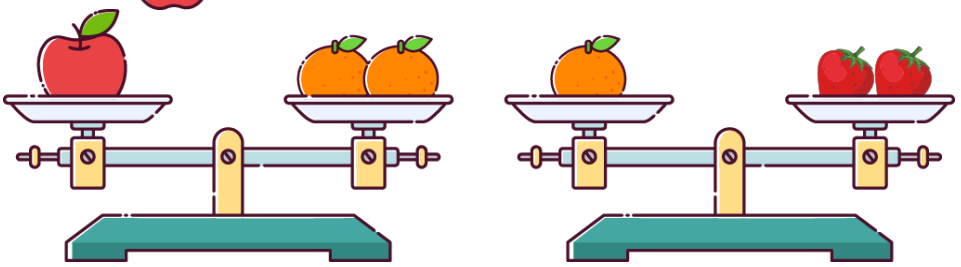
18 Observe the scales. _____ chicks weigh the same as a dog.



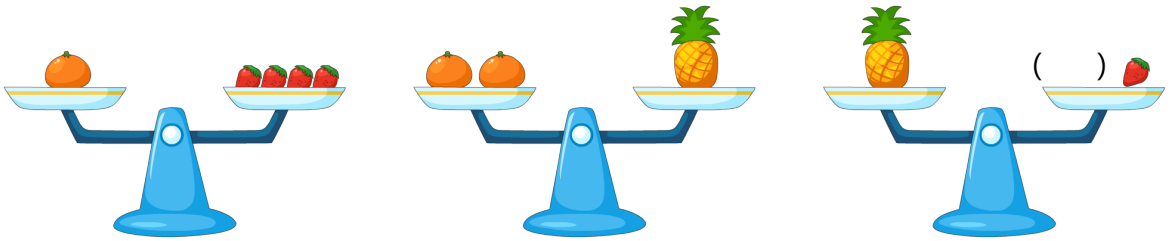
19 Observe the scales. _____ apples weigh the same as a watermelon.



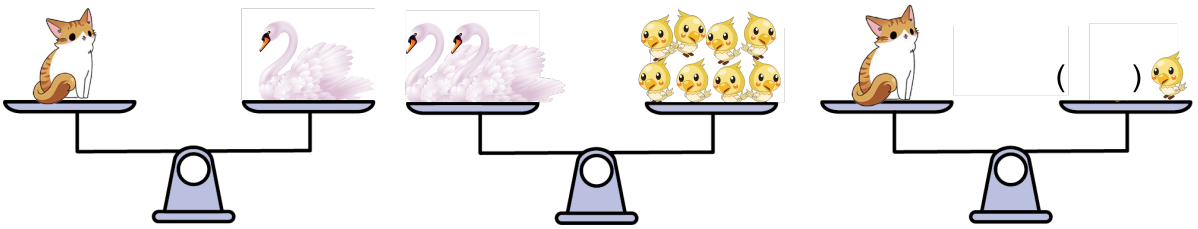
20 The weight of 1 is equal to the weight of _____ .



21 Observe the scales. _____ strawberries weigh the same as a pineapple.

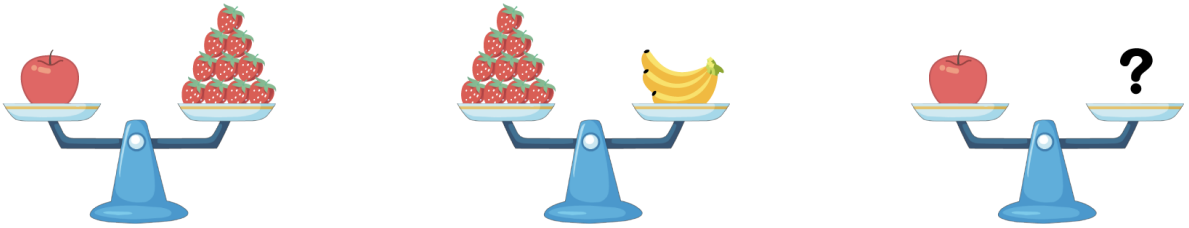


22 Observe the scales. _____ chicks weigh the same as a cat.

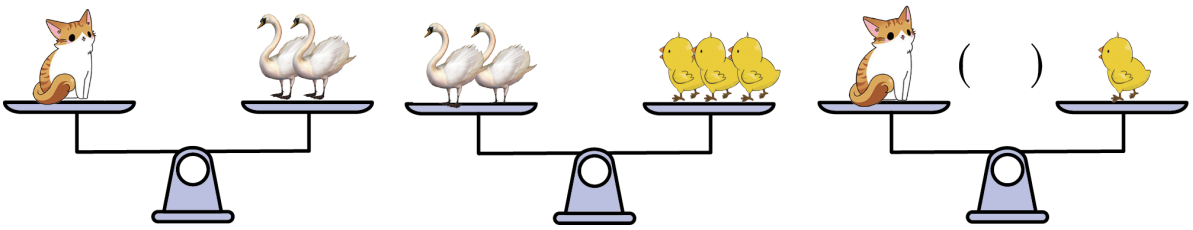


23 How many strawberries weigh the same as an apple?

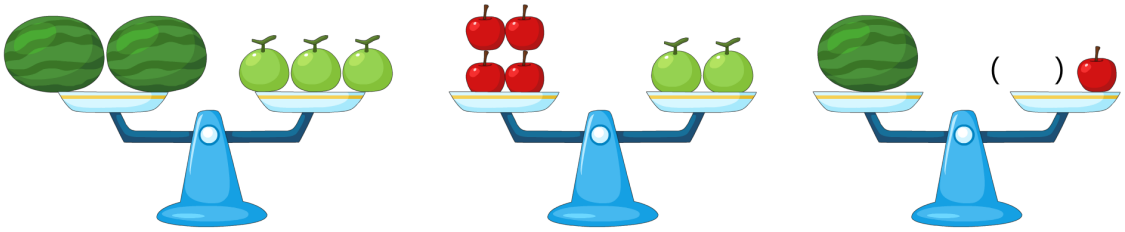
24 Observe the scales. _____ bananas weigh the same as an apple.



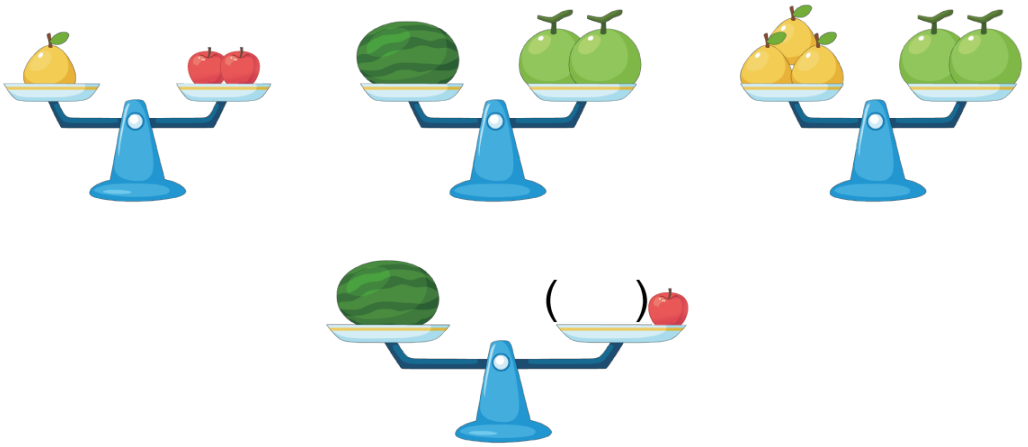
25 Observe the scales. _____ chicks weigh the same as a cat.



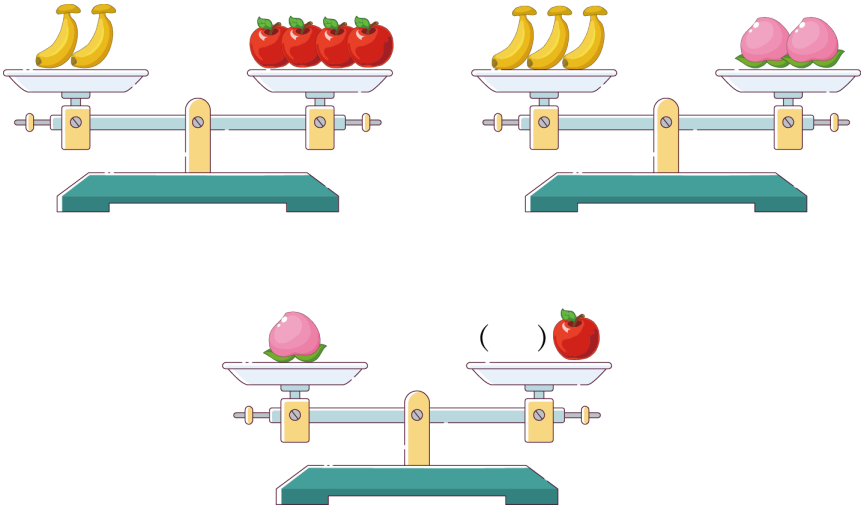
26 1 watermelon = _____ apples.



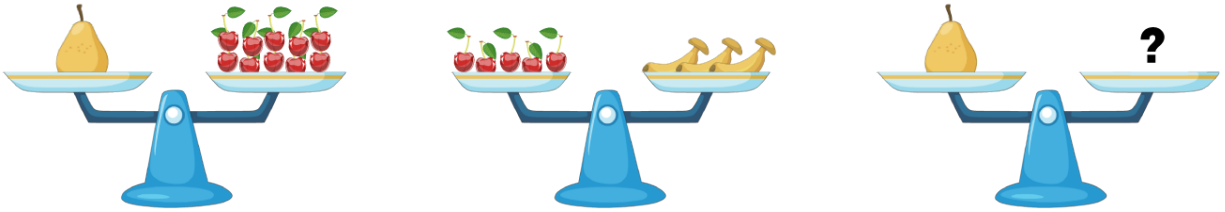
27 Observe the scales. _____ apples weigh the same as a watermelon.



28 How many apples weigh the same as a peach? Fill the number in the blank.

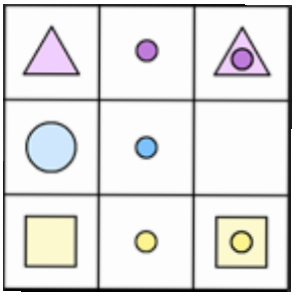


29 Observe the scales. _____ bananas weigh the same as a pear.



Pattern

1 Find the pattern and choose the figure in the blank square.

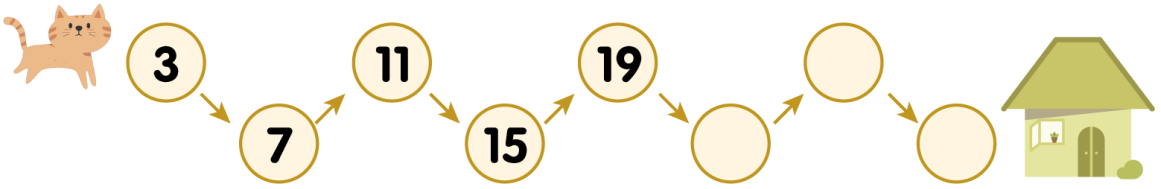


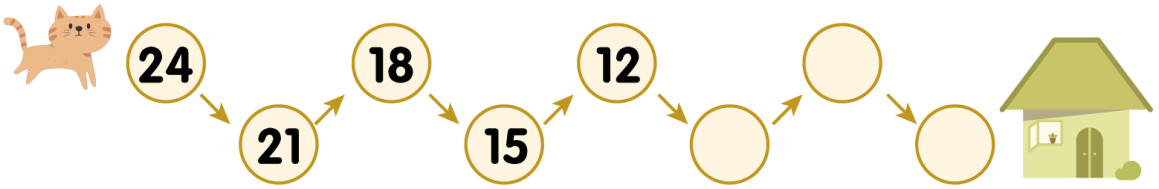
A.

B.

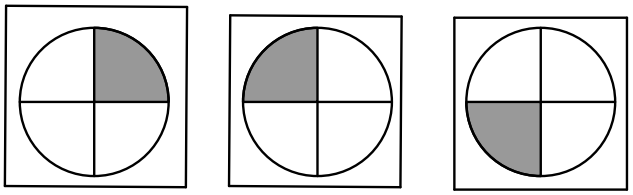
C.

2 The little cats want to go back home. There are some numbers on their ways and they have to find the missing numbers. Can you help them?

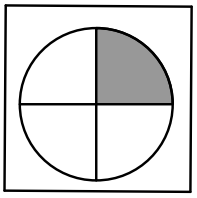
(1) 

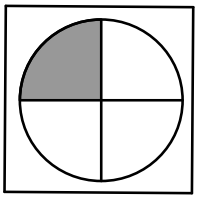
(2) 

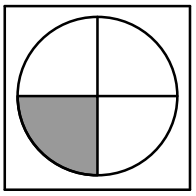
3 Observe the pattern in the shapes. What is the 6th shape?



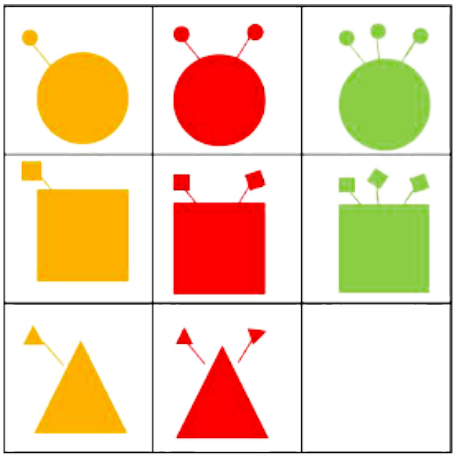
（1） （2） （3）

A. 

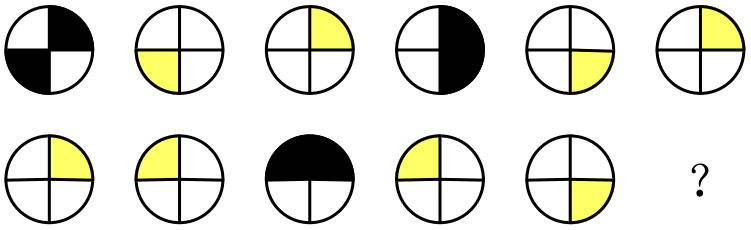
B. 

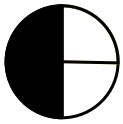
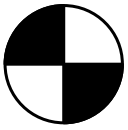
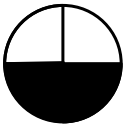
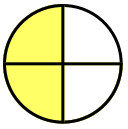
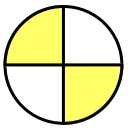
C. 

4 Find the pattern and circle the figure in the blank square.

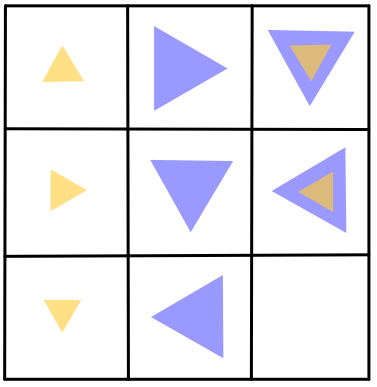


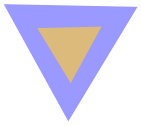
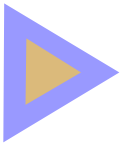
5 Find the pattern and choose the last figure covered by the question mark.



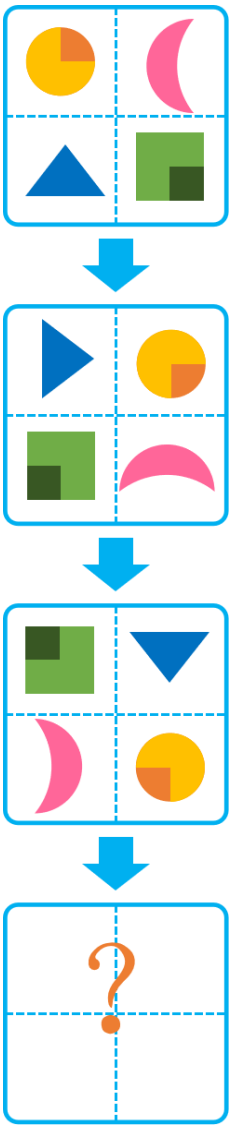
A.  B.  C.  D.  E. 

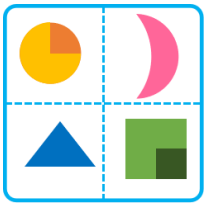
6 Find the pattern and choose the figure in the blank square.

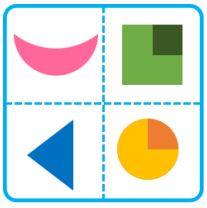


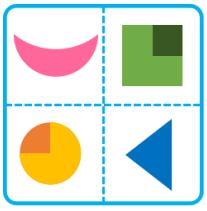
A.  B. C. D. 

7 According to the pattern below, what will be the fourth graph?

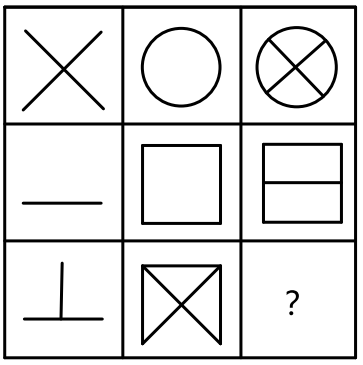


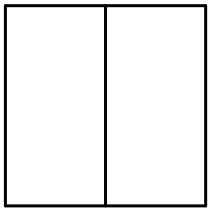
A. 

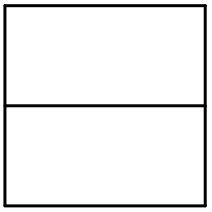
B. 

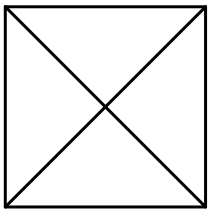
C. 

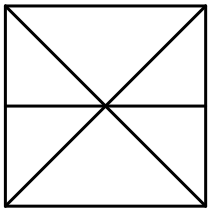
8 Find the missing shape.

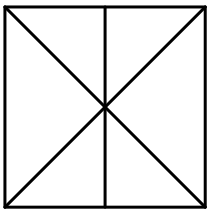


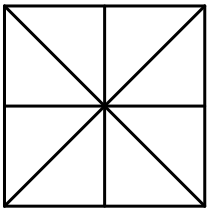
A. 

B. 

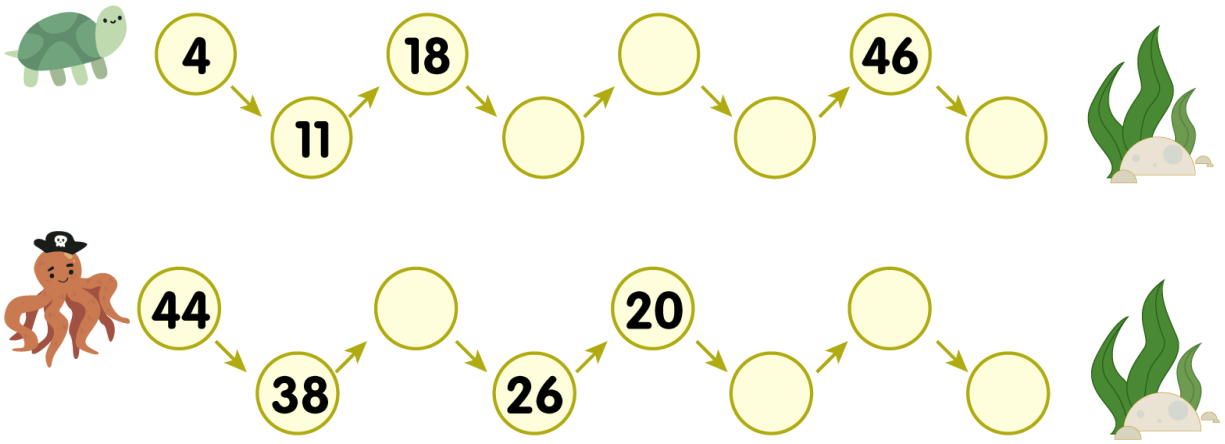
C. 

D. 

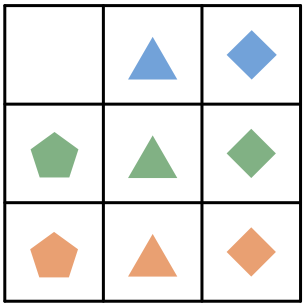
E. 

F. 

9 Observe the patterns of the numbers, and help the sea animals find the ways back home.



10 Find the pattern and choose the figure in the blank square.



A.

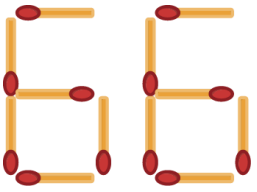
B.

C.

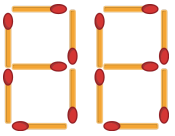
D.

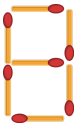
Matchsticks

1 Here is a number 66 formed with matchsticks. The smallest 2-digit number is _____ after removing 5 matchsticks from it.

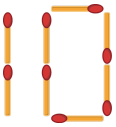


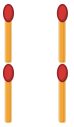
2 Here is a number 88 formed with matchsticks. The smallest number is _____ after removing 6 matchsticks from it.



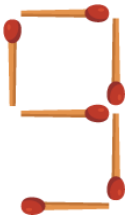
A. 

B.

C. 

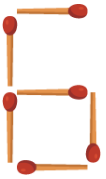
D. 

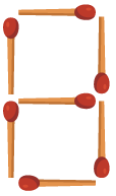
3 Here is a number 9 formed with matchsticks. If you can only move 1 matchstick, which number can you form?



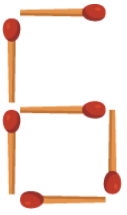
A.

B.

C. 

D. 

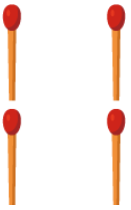
4 Try to move matchstick in the number below.



(1) Remove 1 matchstick, and you will get number _____ .

(2) Move 1 matchstick, and you will get number _____ .

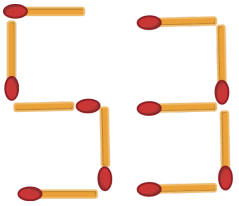
5 Here is a number 11 formed with matchsticks. The smallest 2-digit number is _____ after adding 3 matchsticks to it.



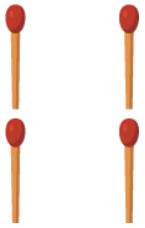
6 The number 1 will become number _____ after adding 1 matchstick.

The number 3 will become number _____ after adding 1 matchstick.

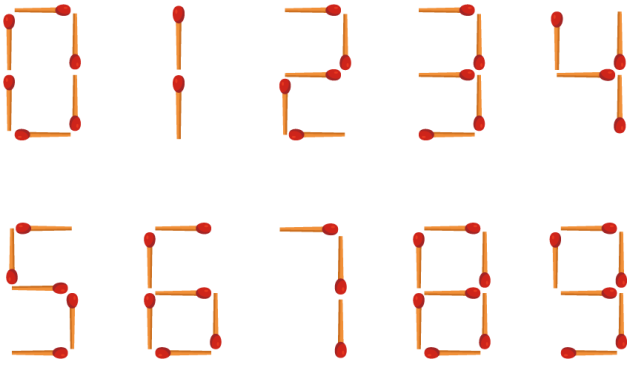
7 Here is a number 53 formed with matchsticks. The largest 2-digit number is _____ after adding 1 matchstick to it.



8 If you add 4 more matchsticks to this number 11, the largest 2-digit number will be _____ .



9 We can use matchsticks to form numbers. You have 9 matchsticks now and you need to use all of them. What is the largest 2-digit number you can form? _____



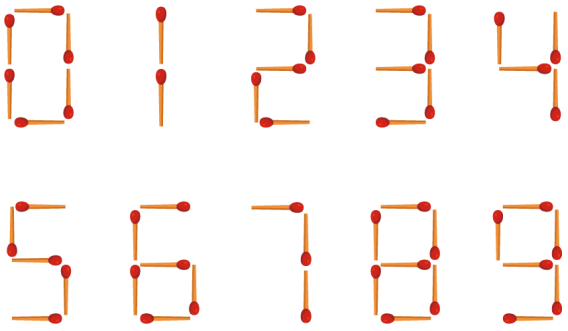
10 How many matchsticks do you need to form each number?

( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )

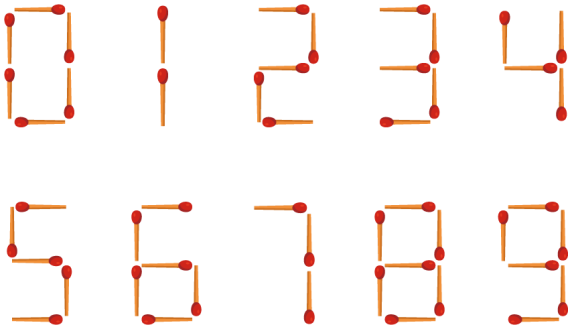
11 We can use matchsticks to form numbers. You have 11 matchsticks now and you need to use all of them.

(1) What is the largest 2-digit number you can form? _____

(2) What is the smallest 2-digit number you can form? _____

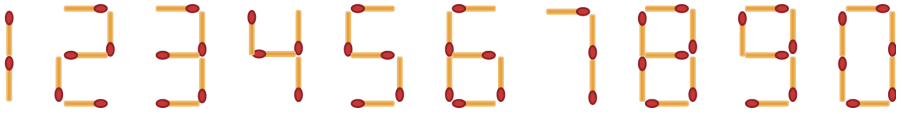


12 We can use matchsticks to form numbers. What is the smallest 2-digit number you can form with 7 matchsticks? (You need to use all of them)

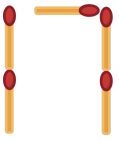


A. 10 B. 11 C. 12 D. 13

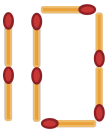
13 You need _____ matchsticks to form a number 9.

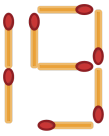


14 Here is a number 17 formed with matchsticks. The smallest 2-digit number is _____ after adding 3 matchsticks to it.

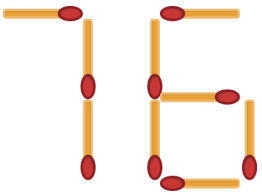


A.

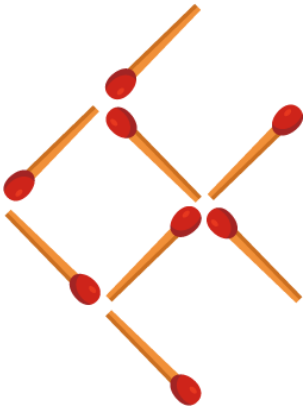
B. 

C. 

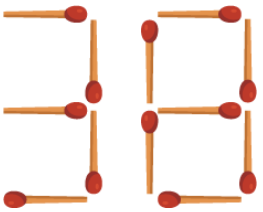
15 Here is a number 76 formed with matchsticks. The smallest 2-digit number is _____ after removing 1 matchstick from it.



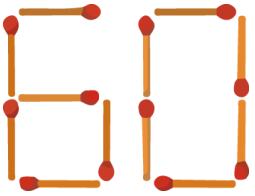
16 Here is a fish formed with matchsticks. Now the fish is heading toward the left. Move 2 matchsticks to make it head downward.



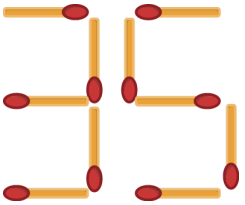
17 This number 38 is formed with 12 matchsticks. Now you need to remove 4 matchsticks and turn it into a new 2-digit number. The smallest 2-digit number is _____ .



18 Here is a number 60 formed with matchsticks. The largest 2-digit number is _____ after moving two matchsticks.



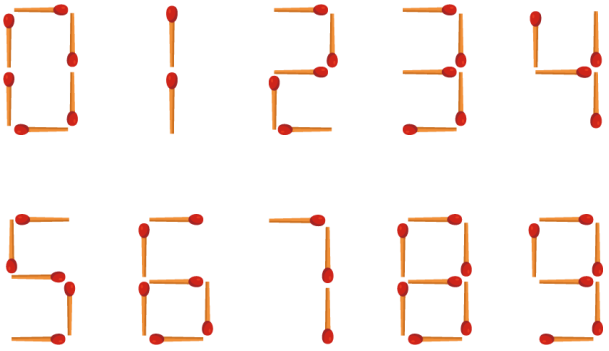
19 Here is a number 35 formed with matchsticks. The largest 2-digit number is _____ after adding 2 matchsticks to it.

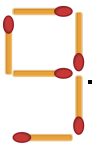


20 We can use matchsticks to form numbers. You have 6 matchsticks now and you need to use all of them.

(1) What is the largest 2-digit number you can form? _____

(2) What is the smallest 2-digit number you can form? _____

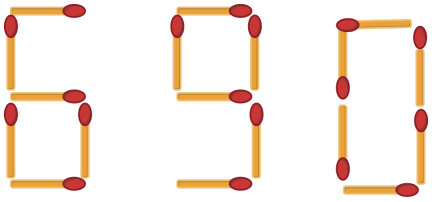


21 You can use 6 matchsticks to form  . If you need to remove 1 matchstick, what is the least number you can form?

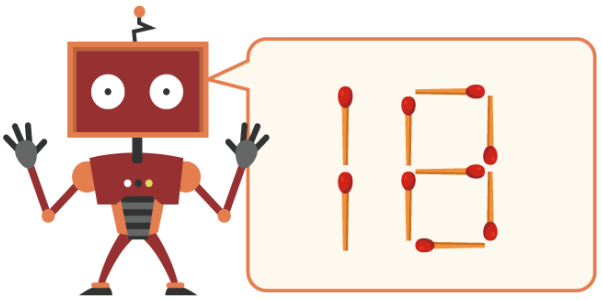
22 The number 6 will become number _____ after adding 1 matchstick.

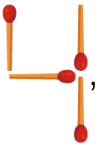
The number 9 will become number _____ after adding 1 matchstick.

The number 0 will become number _____ after adding 1 matchstick.



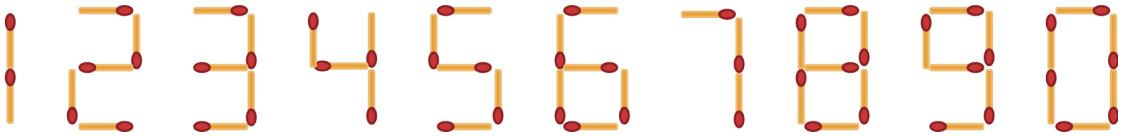
23 The robot makes the number 18 with matchsticks as shown below. What is the largest 2-digit number the robot can make if it only moves 1 matchstick?



24 Add 2 matchsticks to the number  , you can get number _____ .

25 Which number is formed with the most matchsticks? How many matchsticks are used to form that number?

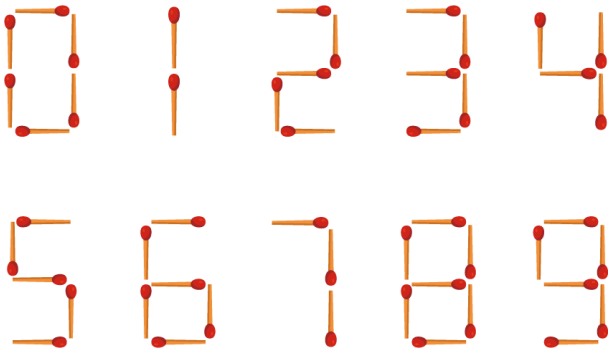
Which number is formed with the least matchsticks? How many matchsticks are used to form that number?



26 We can use matchsticks to form numbers. You have 8 matchsticks now and you need to use all of them.

(1) What is the largest 2-digit number you can form? _____

(2) What is the smallest 2-digit number you can form? _____

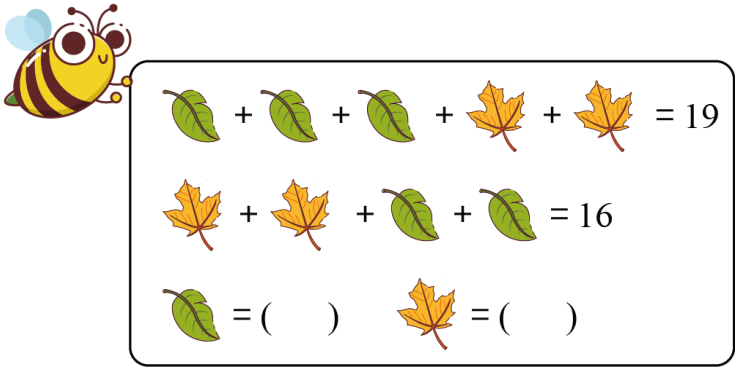


NOTE

Crazy Math

MK Level 1–2

1 Observe the picture below. What numbers do the green leaf and the yellow leaf represent, respectively?



A. 2, 4 B. 3, 5 C. 4, 2 D. 5, 3 E. 3, 6

2 It is Tuesday today. Amy visited her grandmother 5 days ago. On what day of the week did Amy visit her grandmother?

A. Monday B. Thursday C. Wednesday
D. Friday E. Sunday

3 What number should be put in the last flower?

A. 31 B. 25 C. 21 D. 15 E. 13

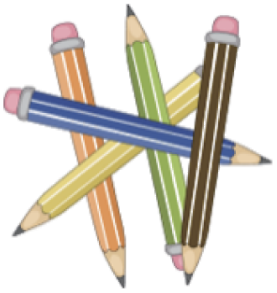
4 Allen and Paul are standing in line. Allen knows that there are 10 people in front of him. Paul knows there is a total of 23 people in the line. If Allen is just in front of Paul, how many people in the line are standing behind Paul?

A. 15 B. 14 C. 13 D. 12 E. 11

5 Physics laboratory opened at 9 : 30 AM. Today, Edison was 45 minutes early to the laboratory. What time did Edison come today?

A. 10 : 15 AM B. 8 : 55 AM C. 8 : 45 AM
D. 8 : 35 AM E. 8 : 45 PM

6 According to the figure of pencils below, if you start from the top and take a pencil away at each time, the green pencil will be the _____ pencil to be picked up.

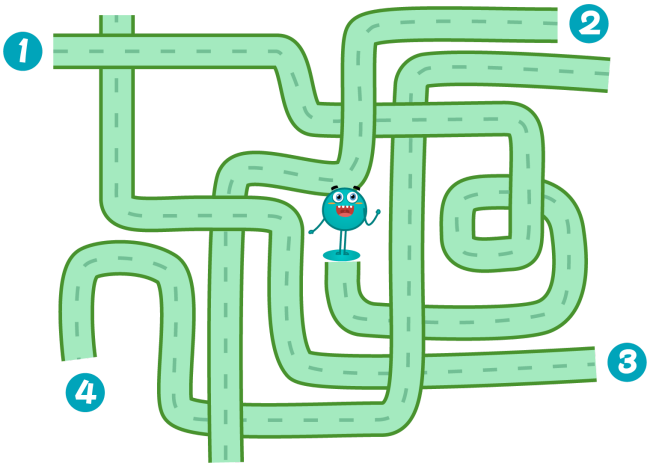


A. 5th B. 4th C. 3rd D. 2nd E. 1st

7 Henry and Mia are collecting their books. If Mia gives 4 books to Henry, they will have the same number of books. At beginning, Henry has 5 books. How many books does Mia have, originally?

A. 11 B. 12 C. 13 D. 14 E. 15

8 The elf in the middle of the picture below goes along the road, and he can reach number _____ .



A. ①
B. ②
C. ③
D. ④
E. There is no right answer.

9 12 dogs are equally divided into 3 groups. How many dogs are there in each group?

A. 3
B. 4
C. 6
D. 2
E. 12

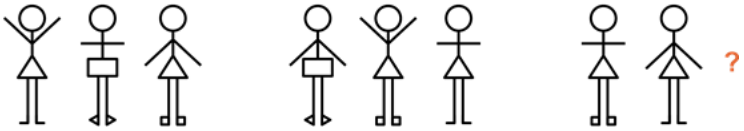
10 The largest two-digit number that you can form using 9, 2, and 3 is _____ . (Each digit can be used only once.)

A. 92 B. 39 C. 239 D. 932 E. 93

11 Victor made 25 donuts to divide to his 6 cousins. If Victor wants to give them all of the donuts and also wants to make every cousin gets the same amount, at least how many more donuts should Victor make?

A. 0 B. 1 C. 3 D. 5 E. 10

12 There are 9 students standing in the line and they show a pattern. Which of the followings is the ninth student represented by the question mark?



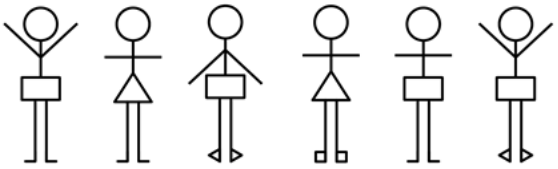
A. 3

B. 6

C. 1

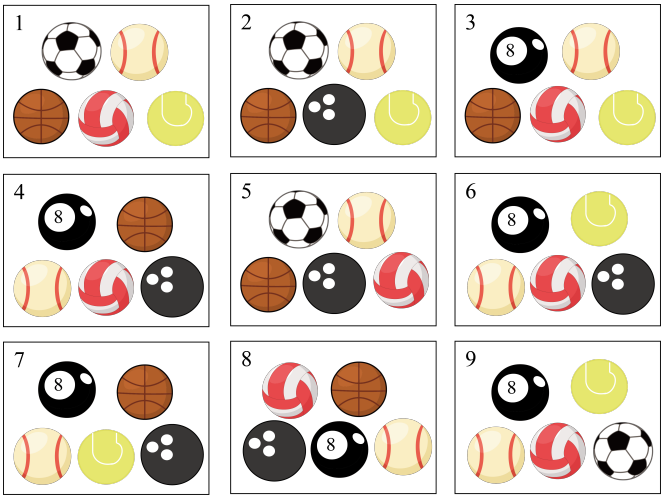
D. 5

E. 4



1 2 3 4 5 6

13 Observe the balls in the following pictures. Which two pictures have the same balls?



A. 1 and 8

B. 2 and 6

C. 3 and 9

D. 4 and 8

E. 3 and 7

14 How many rectangles are there in the picture below?

A. 7

B. 8

C. 6

D. 5

E. 9

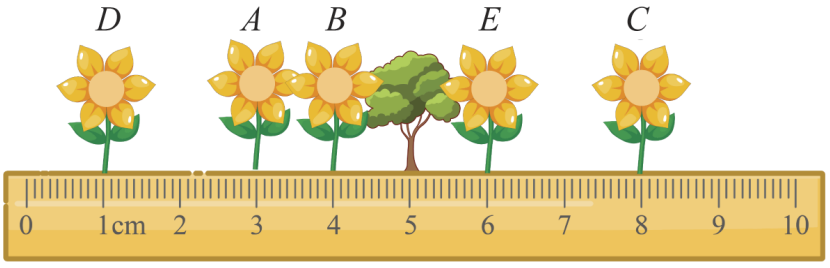
15 A pizza can be divided into 6 pieces. Divide 4 pizzas to 8 children and every child gets the same number of pieces. How many pieces can each child have?

A. 7 B. 6 C. 5 D. 4 E. 3

16 Jimmy paid 10 dollars for 5 coffee mugs. How many dollars should he pay in total for the same kind of mugs if he bought 7 more of them?

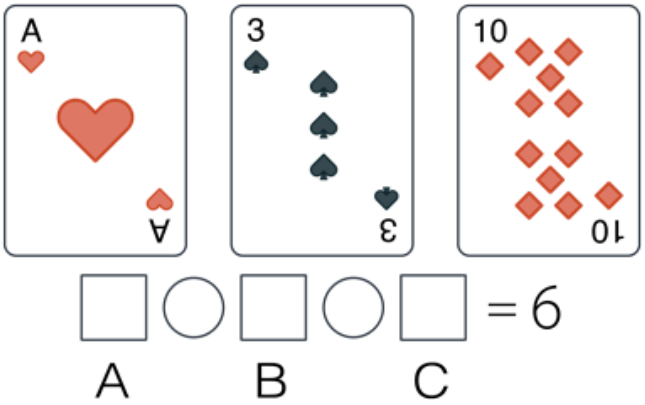
A. 14 B. 17 C. 20 D. 22 E. 24

17 On the ruler, the flower which is 2 cm away from is _____ .



A. A B. B C. C D. D E. E

18 Vicky has three poker cards which represent three numbers. She uses only the signs "+" and "−" to make an equation as shown below. Each number can only be used once. What is the position of the 10 in the equation? (The poker card "A" stands for 1.)

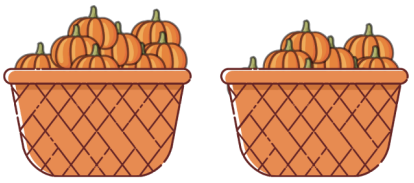


A. A
B. B
C. C
D. Each location is possible.
E. A and B

19 Linda invites her sixteen friends to have lunch together. Nine of her friends are boys. How many girls are there?

A. 8 B. 9 C. 10 D. 7 E. 6

20 William wants to make two baskets have the same number of pumpkins. How many pumpkins should be moved from the basket on the left to the basket on the right?



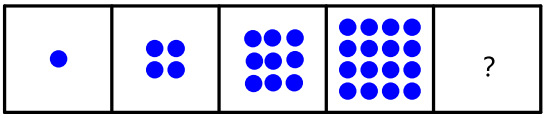
19 7

A. 3 B. 6 C. 10 D. 12 E. 15

21 David, James and William had dinner together. David ate 15 more hotdogs than William, and 7 more hotdogs than James. How many more hotdogs did James eat than William?

A. 6 B. 10 C. 14 D. 8 E. 4

22 How many blue dots are in the last box?

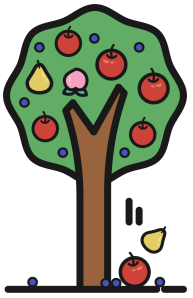


A. 15 B. 20 C. 25 D. 30 E. 35

23 Sam was 16 years old when Lily was 7. Now, Lily is 12 years old. How old is Sam?

A. 12 B. 13 C. 21 D. 23 E. 28

24 How many apples are there on the tree?



A. 1 B. 5 C. 6 D. 7 E. 9

25 If a cat can eat 8 cans in 4 days, how many cans can it eat in a week?

A. 2 B. 12 C. 14 D. 16 E. 32

26 Find the piece missing from the picture below.

A.

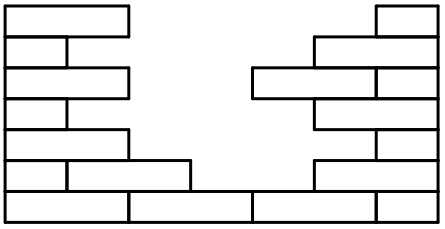
B.

C.

D.

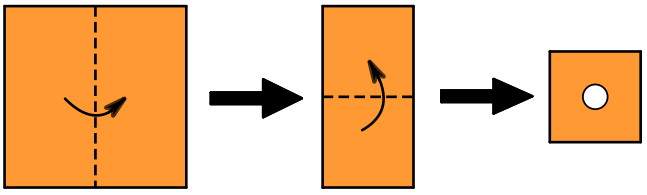
E. There is no right answer.

27 How many bricks are missing in the figure below?



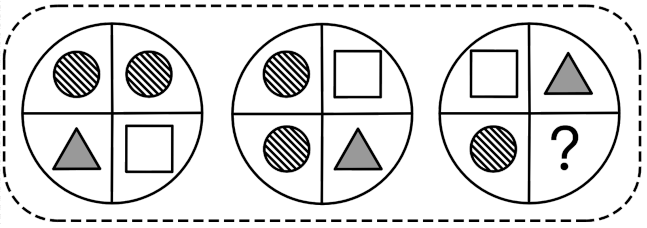
A. 7 B. 8 C. 9 D. 10 E. 11

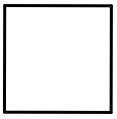
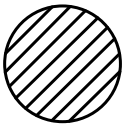
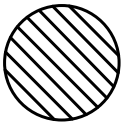
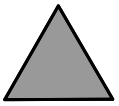
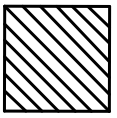
28 A piece of paper below is folded in half, and is folded in half again. Then a circle is cut out from it. When the paper is unfolded, how many circles are there on the paper?



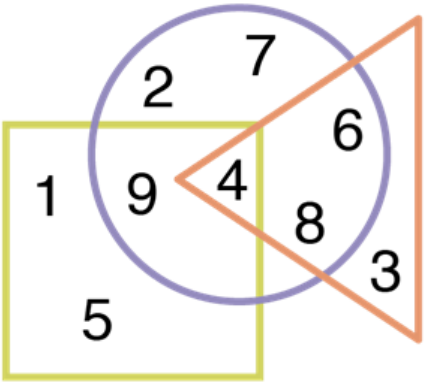
A. 1 B. 2 C. 3 D. 4 E. 6

29 Find the shape in the blank with the question mark.



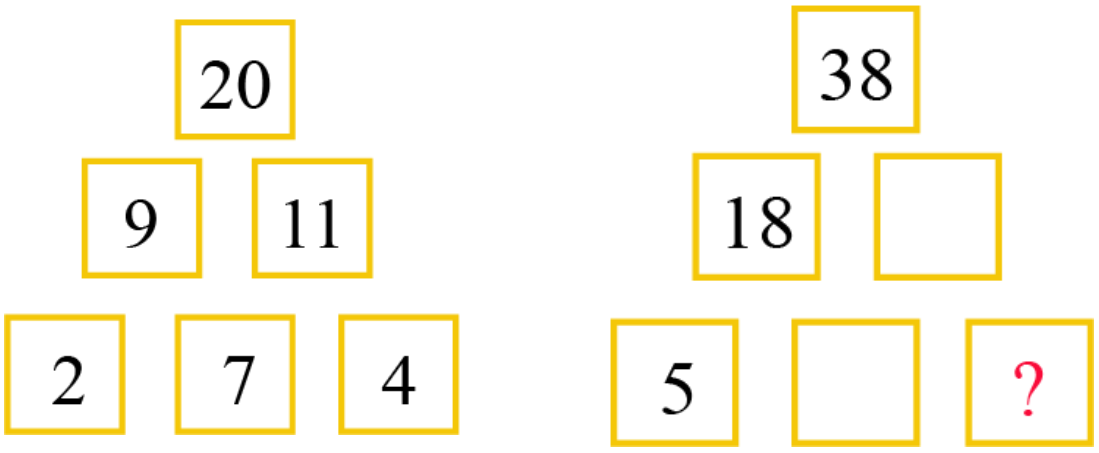
A. 
B. 
C. 
D. 
E. 

30 The picture below shows nine numbers. What is the sum of the numbers outside the square?



A. 26 B. 21 C. 15 D. 30 E. 23

31 Observe the pattern in the first pyramid. What number should be put in the box with the question mark?



A. 20 B. 13 C. 7 D. 5 E. 0

32 Lisa has a piece of rectangular paper. She cuts off one part, and the remaining part is shown below. Which of the following figures is the part that Lisa cuts?

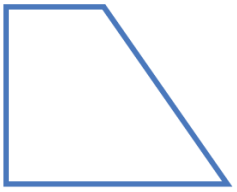


Figure 1

A.

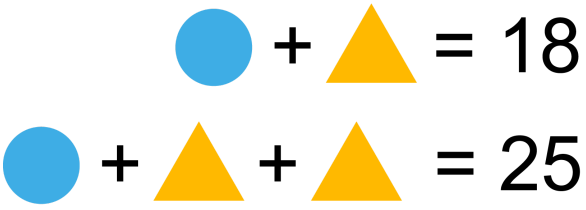
B.

C.

D.

E. Can not be determined.

33 According to the equations below, what number does ● represent?

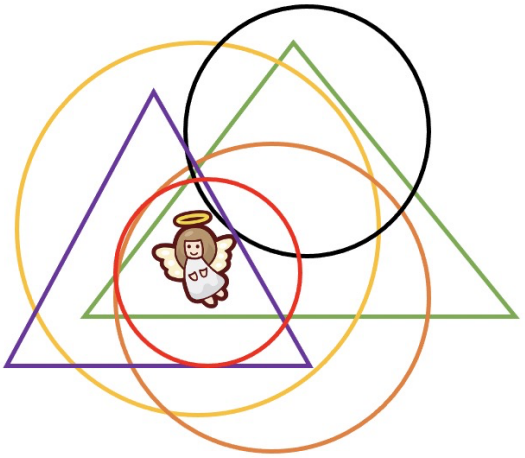


A. 6 B. 7 C. 10 D. 11 E. 12

34 Carl has 17 apples and Jayce has 33 apples. How many apples does Jayce need to give to Carl so that each one has the same number of apples?

A. 6 B. 7 C. 8 D. 9 E. 10

35 How many circles is the angel inside?



A. 6 B. 5 C. 4 D. 3 E. 2

36 Coody wraps a rope and dyes the left part red and right part blue as the picture below. When Coody straightens the rope, what will it look like?

A.

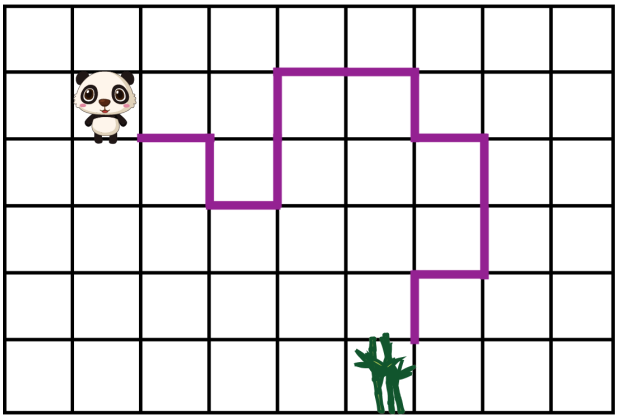
B.

C.

D.

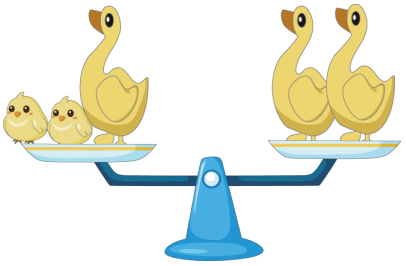
E.

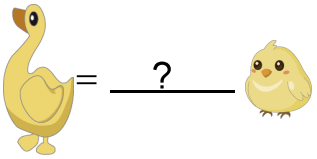
37 Patrick the Panda followed the route and got the bamboo. How many right turns did he make?



A. 2 B. 3 C. 4 D. 5 E. 6

38 How many chicks weigh the same as a duck?





A. 1 B. 2 C. 3 D. 4 E. 5

39 The sum of Cindy's and Penny's ages is 22. What will be the sum of their ages in 6 years?

A. 28 B. 32 C. 34 D. 36 E. 38

40 James and his father play darts together. Each of them plays three times. His father gets 24 points, while the points James gets is 4 fewer than half of his father's score. How many points does James get?

A. 20 B. 14 C. 4 D. 6 E. 8

41 Can you describe the pattern below using the letter A and B? (Hint: represent the moon as A and the star as B)

A. $ABABBB$ B. $ABBABB$ C. $BAABAA$ D. $BAABAB$ E. $ABAABA$

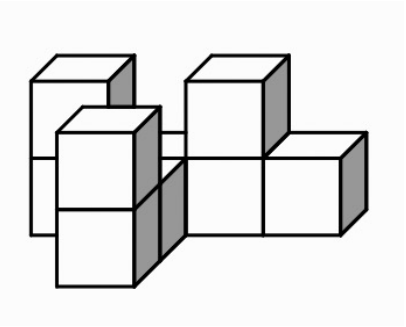
42 Lucy bought 29 peaches in the store. She wants to give all of the peaches to her 7 friends but she also wants to give each of them the same number of peaches. How many more peaches should she buy at least?

A. 4 B. 5 C. 3 D. 6 E. 10

43 Amy, Babara, Cece, and Darius each carves a pumpkin. Each of their pumpkins is assigned a two-digit number as shown below. Both Amy's and Babara's numbers are even. Both Babara's and Cece's numbers are less than 40. What number is assigned to Darius' pumpkin?

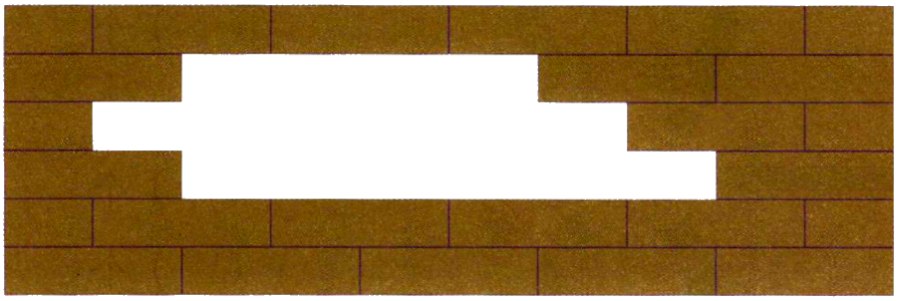
A. 24
B. 78
C. 35
D. 85
E. Impossible to determine

44 How many cubes are there in the block below?



A. 9 B. 7 C. 5 D. 11 E. 8

45 There are _____ bricks missing in the picture below.



A. 6 B. 7 C. 8 D. 9 E. 4

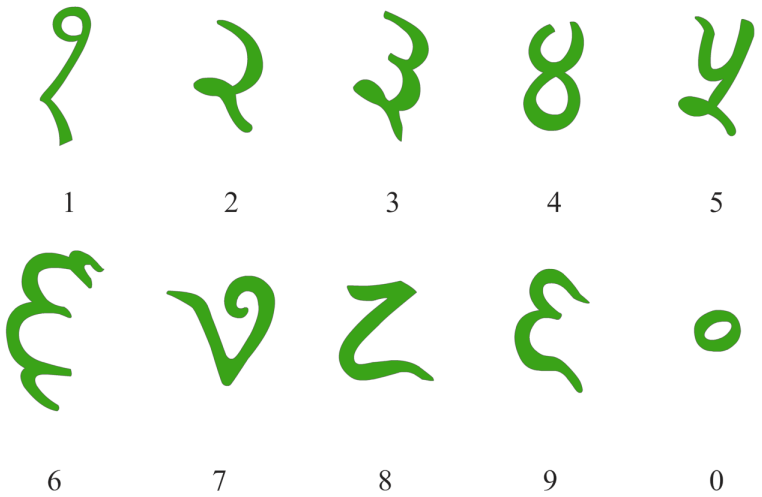
46 What is the sum of the digits in the number 5678?

A. 25 B. 26 C. 27 D. 28 E. 29

47 One bottle of coke costs 2 dollars. There is a special sale so you can buy 4 bottles of coke for 7 dollars. How many bottles of coke can you buy with 60 dollars?

A. 34 B. 29 C. 32 D. 30 E. 33

48 Numbers we are using today are called Arabic numerals. In ancient time, the Arabic numerals were written in different way as shown below. Observe the numbers below, and choose the greatest 3-digit number in the options.



A.

B.

C.

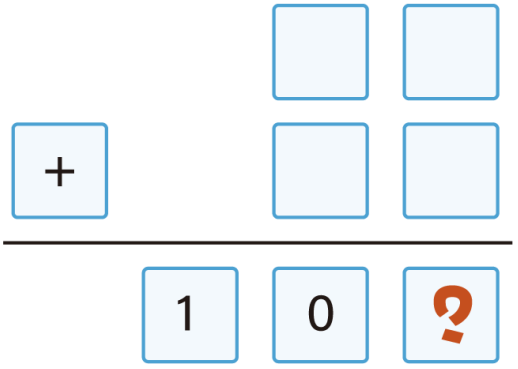
D.

E.

49 Mark lives in the 7th floor. It takes him 8 seconds to climb a floor. How many seconds will he use to climb from the second floor to his home?

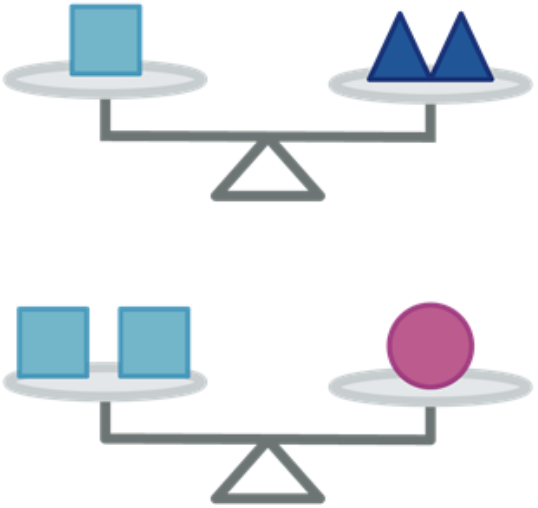
A. 32 B. 40 C. 44 D. 48 E. 56

50 Write each of the digits 2, 3, 4, 5, and 6 in the squares to make the addition on the right correct. Which digit will be in the square with the question mark?



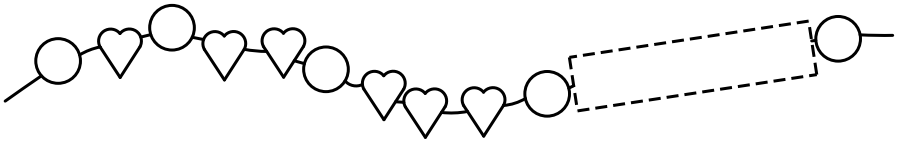
A. 2 B. 3 C. 4 D. 5 E. 6

51 How many triangles can balance one circle?



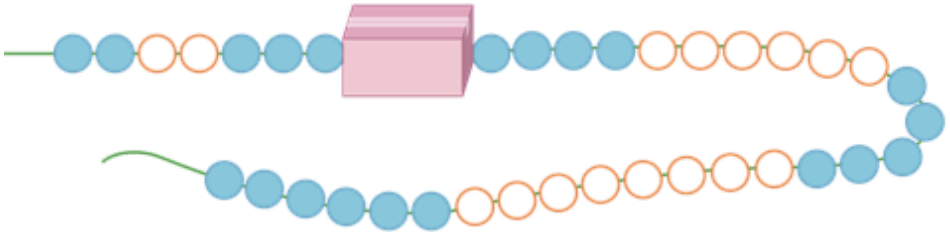
A. 2 B. 6 C. 8 D. 4 E. 5

52 Find the pattern in the shapes. How many ♡ should be filled in the blank?



A. 3 B. 4 C. 5 D. 6 E. 7

53 According to the picture below, how many dots are hidden in the box?



A. 1 B. 5 C. 2 D. 4 E. 3

54 Which key can open the treasure box below?

A.

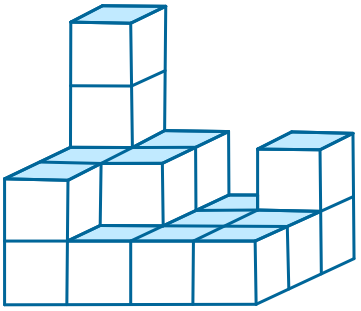
B.

C.

D.

E.

55 How many cubes are used to build the figure below?

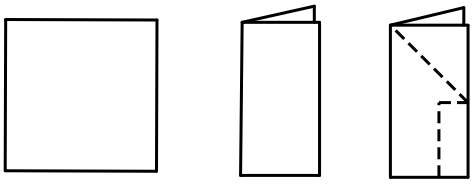


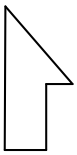
A. 14 B. 16 C. 18 D. 20 E. 21

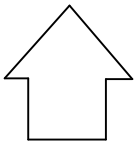
56 Ben writes down all the numbers from 1 to 80 inclusive. How many times does he use the digit 7?

A. 16 B. 17 C. 18 D. 19 E. 20

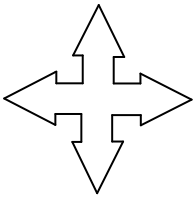
57 Fold a square paper as shown below, and cut along the dotted lines. What will the unfolded shape look like?

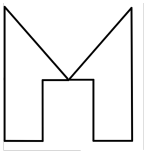


A. 

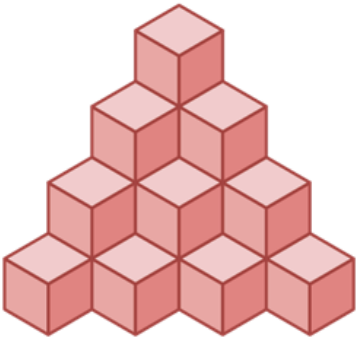
B. 

C.

D. 

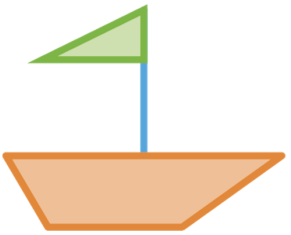
E. 

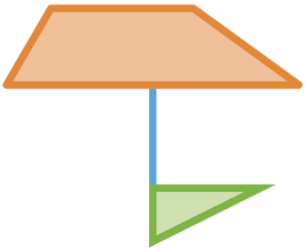
58 Jack makes a model using some identical red cubes as shown below. How many cubes can Jack not see from this view?

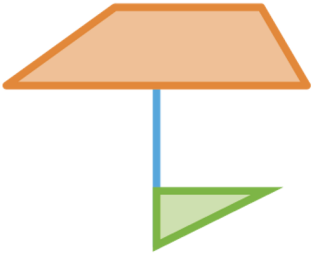


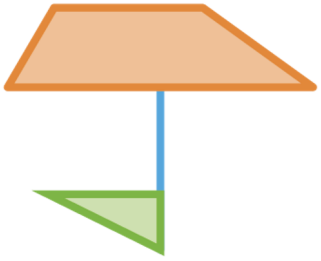
A. 8 B. 10 C. 9 D. 20 E. 11

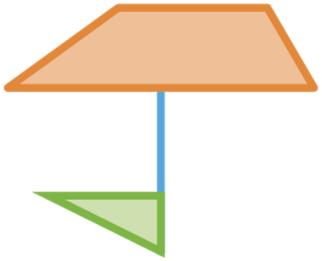
59 There is a boat on a lake. Which of the pictures does the boat's reflection look like in the lake?



A. 

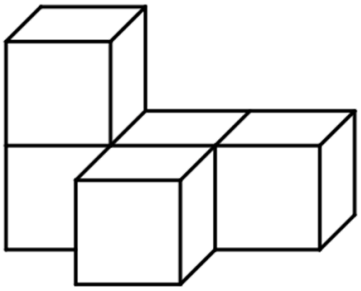
B. 

C. 

D. 

E. It is impossible to tell.

60 The figure shown in the picture is built out of identical cubes. How many cubes are used to build it?

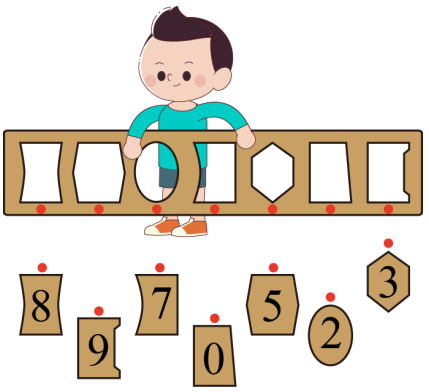


A. 4 B. 7 C. 5 D. 6 E. 8

61 Victoria has 15 pencils, and Penny has 8 fewer pencils than Victoria. How many pencils do Victoria and Penny have together?

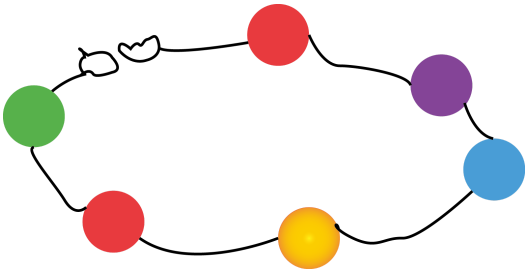
A. 7 B. 15 C. 22 D. 23 E. 38

62 Harry writes a number code on a board and cut the numbers in different shapes as shown below. Can you put back all the numbers and find the code?



A. 8970523 B. 8527309 C. 8537209 D. 8527030 E. 9537208

63 Kangi has 100 , 10 , 10 , 10 , and 10 . How many bracelets like the picture below can Kangi make?



A. 5 B. 6 C. 7 D. 8 E. 10

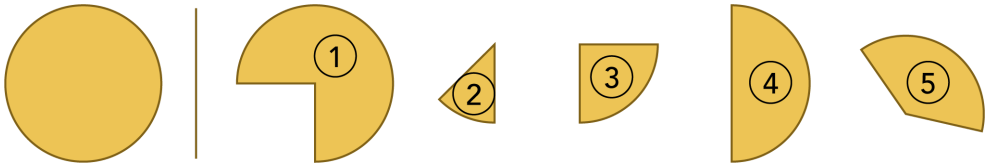
64 Jim and Frank each has five apples. After they give some apples to each other, how many apples are there in total?

A. 0 B. 5 C. 10 D. 12 E. 15

NOTE

Think Cup

1 The circle on the left can be formed by two pieces on the right. Find the two pieces.



A. ①, ② B. ③, ④ C. ②, ④ D. ①, ⑤ E. ①, ③

2 A paper was folded and then cut as shown below. What would the cut part look like when it is unfolded?

A.

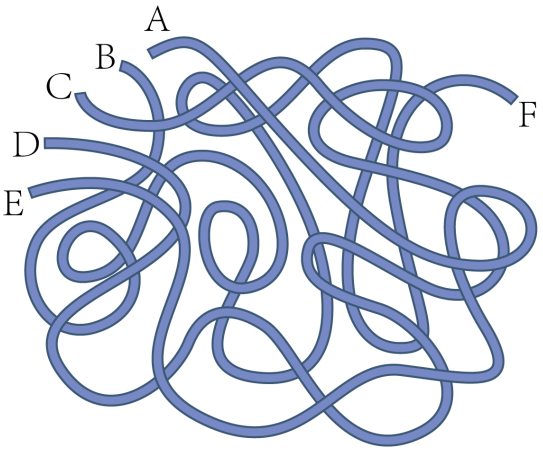
B.

C.

D.

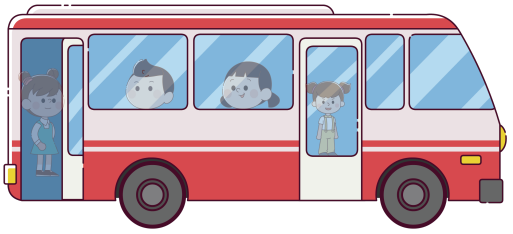
E.

3 Starting from point F, which point will be the end?



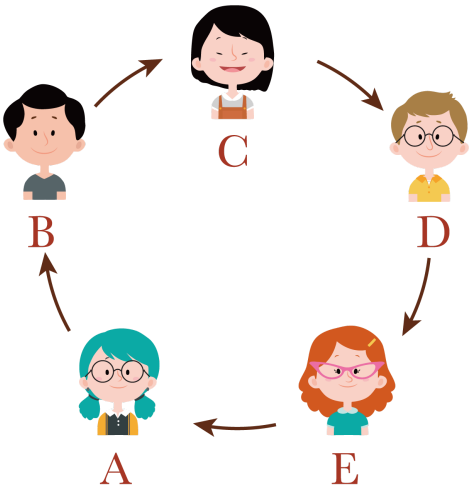
A. A B. B C. C D. D E. E

4 The bus has four stops, 4 passengers get on the bus at the first stop. Starting from the second stop, the number of passengers who get on the bus is 1 less than the previous stop. No one gets off the bus. At the last stop, there are _____ passengers on the bus.



A. 9 B. 8 C. 11 D. 10 E. 12

5 Five kids form a circle as below. Start from kid A and shout out numbers 1, 2, 3, 1, 2, 3, $\cdots$ one by one following the direction of the arrows. Which kid will shout out the fourth 3?



A. A B. B C. C D. D E. E

6 On the island of Lies, half of the people lie only on Wednesday, Friday, and Saturday, and the other half lie only on Tuesday, Thursday, and Sunday. One day, everyone on the island says, "Tomorrow I will tell the truth." What day is it?

A. Tuesday B. Wednesday C. Friday
D. Saturday E. Thursday

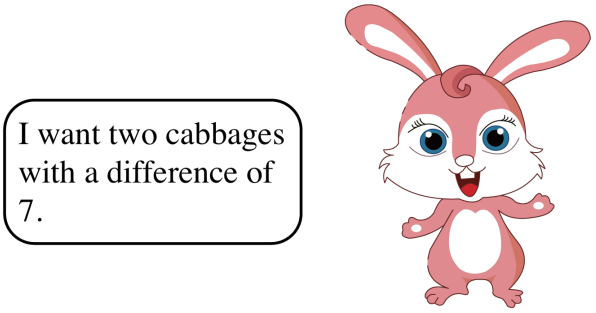
7 Sara wants to fill the numbers $1 - 9$ in the grid below, and the sum of the numbers in each row or column is the same. Each number can only be used once. What number should be filled in the box with the question mark?

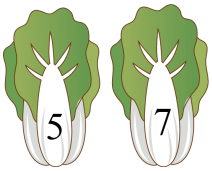
1		
9	?	
5		3

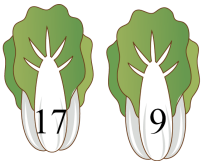
A. 4
B. 2
C. 6
D. Can be 2 or 4
E. Not determined

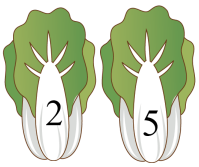
8 The first day of the Reading Week is Tuesday. Which day is the sixth day of the Reading Week?
A. Monday B. Sunday C. Saturday D. Thursday E. Friday

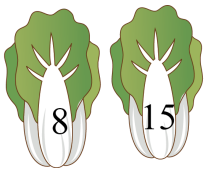
9 Help the bunny find the cabbages.

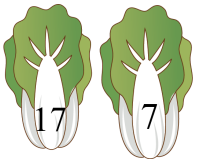


A. 

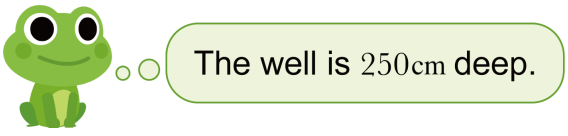
B. 

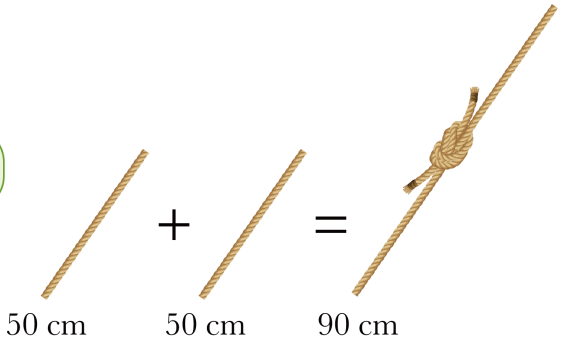
C. 

D. 

E. 

10 The frog falls into a well which is 250 cm deep. The ropes can be tied as shown below. At least how many 50 cm ropes are needed to pull the frog out of the well?





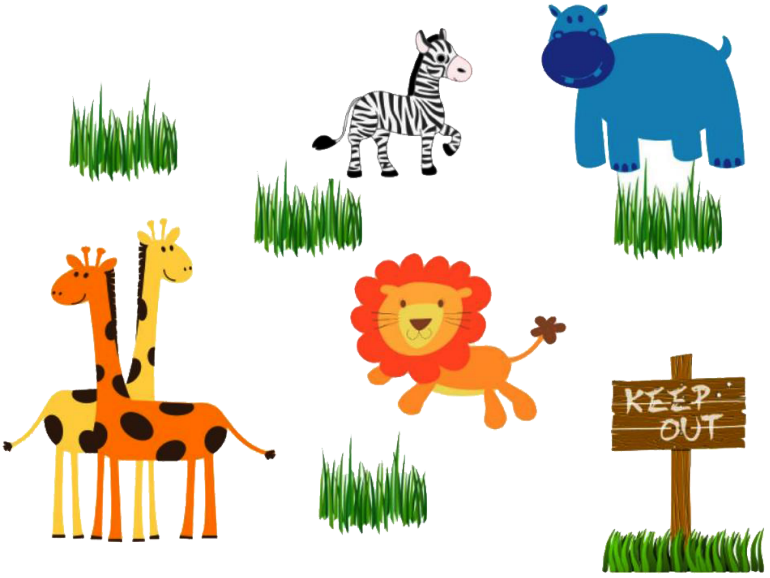
A. 2 B. 3 C. 4 D. 5 E. 6

11 Which number is the greatest?

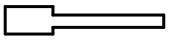
20212021, 20212022, 20212020, 20222021, 20222022

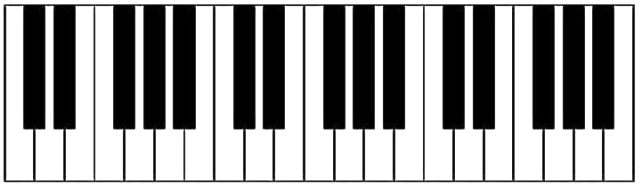
A. 20212021 B. 20212022 C. 20212020 D. 20222021 E. 20222022

12 Count the number of legs of all the animals below.



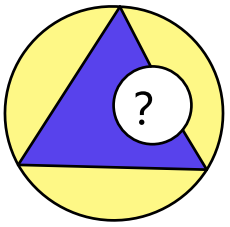
A. 16 B. 18 C. 20 D. 22 E. 24

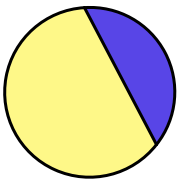
13 How many  s are there in the figure below?

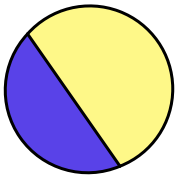


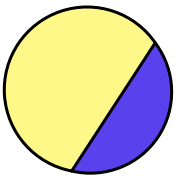
A. 7 B. 9 C. 12 D. 21 E. 22

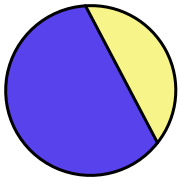
14 Which of the following should be in the blank with the question mark?

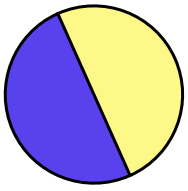


A. 

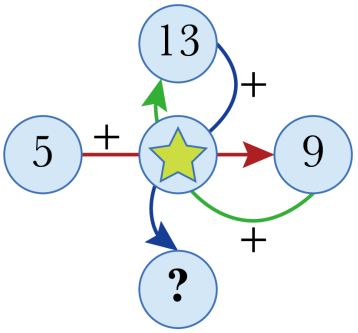
B. 

C. 

D. 

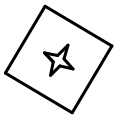
E. 

15 Do the addition following the arrows in the same color. What number should be in the circle with the question mark?



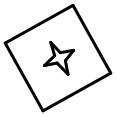
A. 4 B. 5 C. 9 D. 13 E. 17

16 Which figure below is different from the others?

A. 

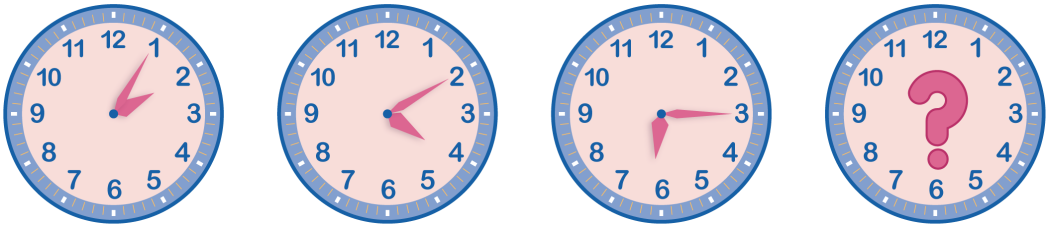
B.

C.

D. 

E.

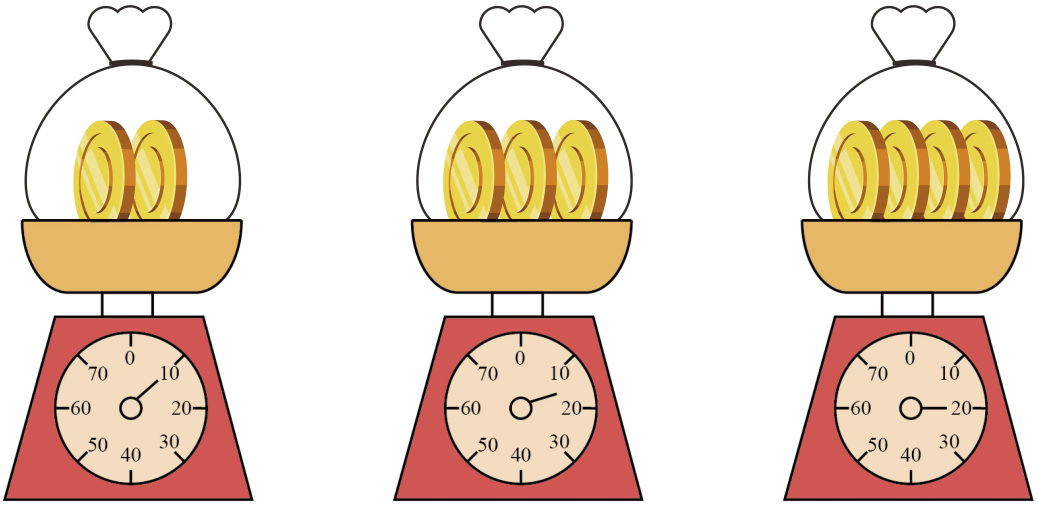
17 Observe the pattern and find the time on the 4th clock.



(1) (2) (3) (4)

A. 6 : 20 B. 7 : 20 C. 8 : 20 D. 8 : 30 E. 9 : 30

18 There are three bags of coins as shown in the picture below. Among these 9 coins, one coin is fake. It is known that the fake coin is heavier than the real coin. Observe the scales below. How much does the fake coin weigh?



①: 10g ②: 16g ③: 20g

A. 4 g B. 5 g C. 6 g D. 10 g E. 16 g

19 The koala is climbing a tree. It can climb 1 meter every minute. After every 10 minutes of climbing, the koala needs to rest for 2 minutes and then continues climbing. If the koala wants to climb a 20-meter-high tree, how long will it spend?

A. 10 min B. 20 min C. 21 min D. 22 min E. 24 min

20 Amy's mom gave her 10 dollars to buy 1 cup, and Amy can use the rest of the money to buy candy for herself. The price of each item is shown below. (She can buy more than one of each item.) How many pieces of candy could Amy buy at most?

A. 1 B. 2 C. 3 D. 4 E. 5

21 Which picture is SpongeBob's head down?

A.

B.

C.

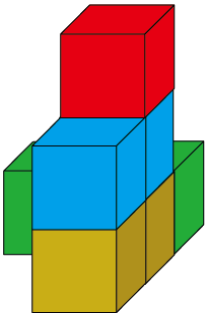
D.

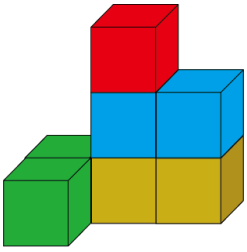
E.

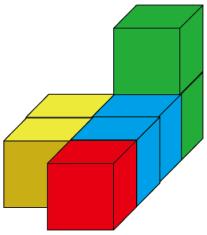
22 Four students Amy, Bella, Chris, and Debbie are lining up. Amy is the last one in the line. The 2nd person behind Chris is Bella. Counting from the front, who is the 2nd person in the line?

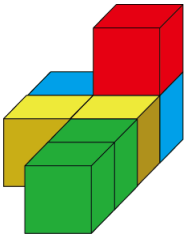
A. Amy
B. Bella
C. Chris
D. Debbie
E. Cannot determine

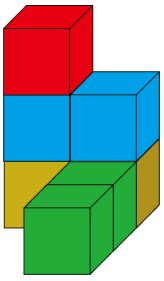
23 Which of the following options is the same as the figure shown to the right?

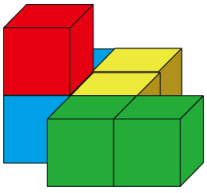


A. 

B. 

C. 

D. 

E. 

24 Aaron, Bryan, and Caroline are standing in a line. Aaron is shorter than Bryan, and Caroline is taller than Bryan. They dress in red, yellow, and blue, respectively.

1. The tallest one does not wear in red.
2. Caroline is taller than the one in blue.
3. The shortest one is standing next to the one in red.

What colors do Aaron, Bryan, and Caroline wear in, respectively?

A. blue, red, yellow
B. blue, yellow, red
C. red, yellow, blue
D. yellow, blue, red
E. red, blue, yellow

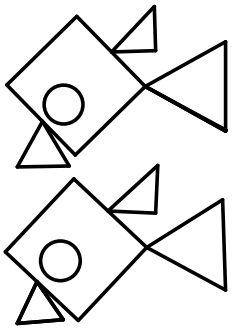
25 Observe the pattern below, and find the missing shape.

A.
B.
C.
D.
E.

26 Five animals are lining up. The dog and the cat are both next to the chicken. The cat and the mouse are both next to the rabbit. Then, which two animals are next to the cat?

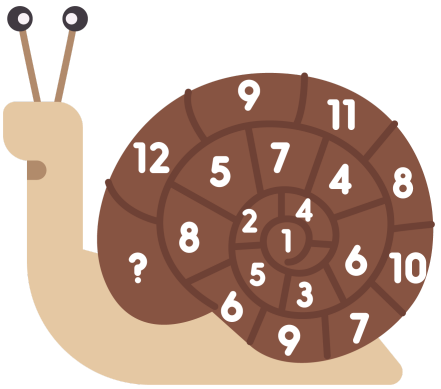
A. mouse and chicken
B. rabbit and chicken
C. rabbit and dog
D. rabbit and mouse
E. mouse and dog

27 How many △ are more than ◯ ?



A. 2
B. 4
C. 6
D. 8
E. 10

28 Observe the pattern of numbers on the snail. What number is represented by the question mark?



A. 10 B. 11 C. 12 D. 13 E. 14

29 Which of the following is different from others?

A. B. C. D. E.

30 Dean has 5 lollipops, and Sammy has 6 lollipops. Dean gives Sammy 2 lollipops, and Sammy eats 3 lollipops. Now, How many lollipops do they have in total?

A. 5 B. 6 C. 7 D. 8 E. 11

31 Alyssa, Ben, Clara, and Dan each buys an eraser. The four erasers are big red eraser, small red eraser, big blue eraser, and small blue eraser. According to the clues below, which eraser does Dan buy?

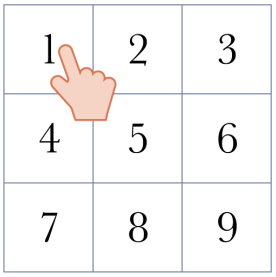
(1) Both Alyssa and Ben buy red erasers.
(2) Both Clara and Alyssa buy big erasers.

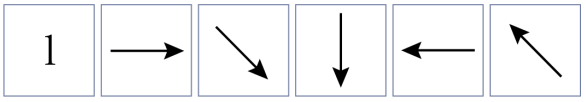
A. Big red eraser
B. Small red eraser
C. Big blue eraser
D. Small blue eraser
E. Not determined

32 If "CAT" is coded as "318", and "BOY" is coded as "279", what is the code for "TOY"?

A. 879 B. 379 C. 319 D. 278 E. 979

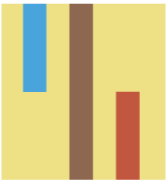
33 The figure on the left shows a code lock. The first number of the code is 1, and other numbers are following the order and directions shown on the right. The direction only leads the finger to move one gird each time. Choose the correct code.





A. 123456 B. 124795 C. 135876 D. 126984 E. 136985

34 Sansa is painting the wall as shown below. When she pushes the roller upward, which pattern will she paint on the wall?

A. 

B.

C.

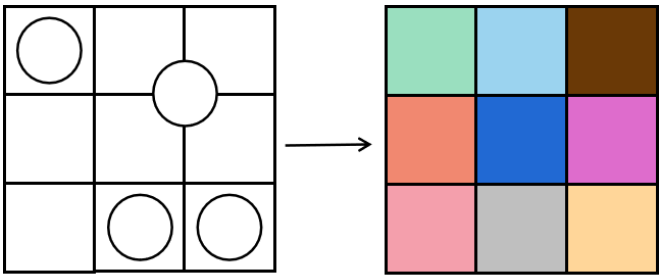
D.

E.

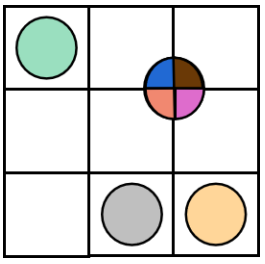
35 April had 12 lollipops, Bobby had 8 lollipops, and Cece had 6 lollipops at the beginning. April gives Cece 5 lollipops, and Cece eats 3 of them. Now, how many lollipops do the three people have in total?

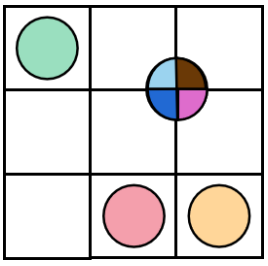
A. 29 B. 26 C. 23 D. 21 E. 20

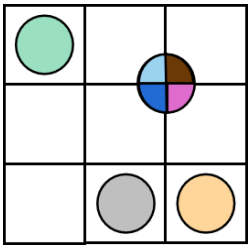
36 Jason has two cards of the same size. Card A has four holes cut in it. Jason places card A directly on top of card B. What can Jason see?

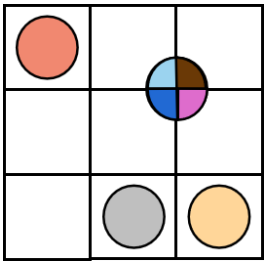


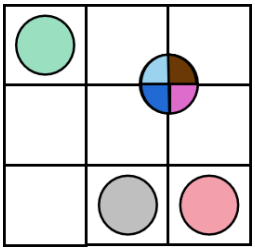
A B

A.


B.


C.


D.


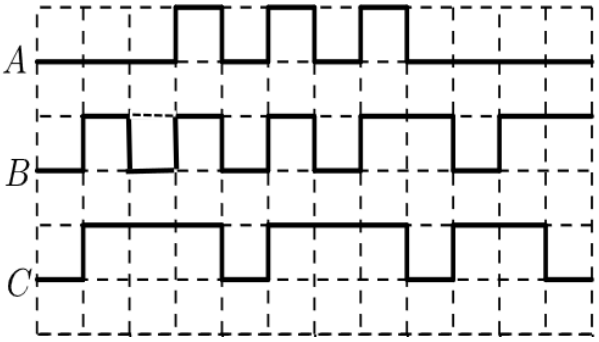
E.


37 The gold coins of the Rabbit Kingdom have different values, as shown below. Little rabbit Lucy wants to buy carrots for $17 without change. How many gold coins should she pay at least?

$ 10 $ 8 $ 4 $ 2 $ 1

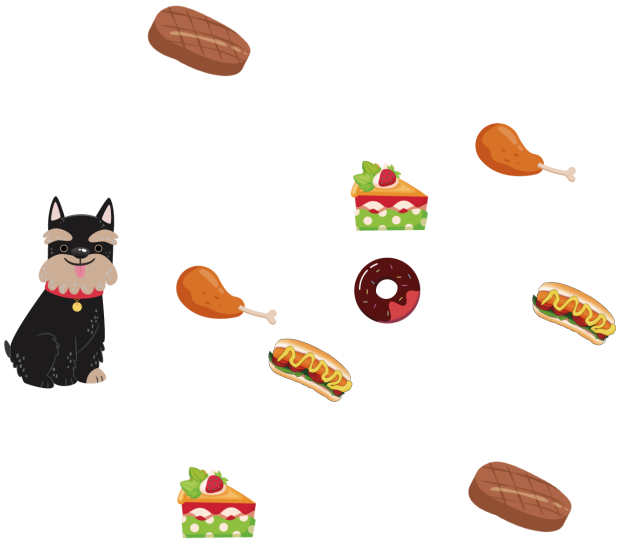
A. 1 B. 2 C. 3 D. 4 E. 5

38 Which line is the longest?



A. A
B. B
C. C
D. They have the same length
E. Not determined

39 Tek the Dog gets some foods in front of him as shown below. Tek always eats the food that is the closest to him each time. Which of the following will be the last food eaten by Tek?



A.
B.
C.
D.
E.

40 Chris and Debbie want to buy the same book, but they do not take enough money. Chris needs 2 dollars and 30 cents more to buy that book. Debbie needs 3 dollars and 80 cents more to buy that book. The sum of their own money is equal to the price of the book. How much is the book?

A. 2 dollars and 30 cents
B. 4 dollars and 60 cents
C. 7 dollars and 60 cents
D. 3 dollars and 80 cents
E. 6 dollars and 10 cents

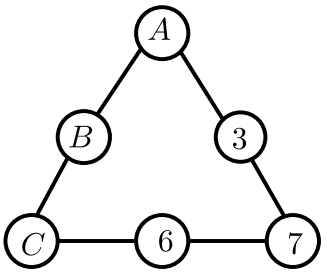
41 Ellie and Bill are picking flowers in forest. In total, they pick 20 flowers. Which of the following is impossible?

A. Ellie picks 2 fewer flowers than Bill.
B. They pick the same number of flowers.
C. Ellie picks 1 more flower than Bill.
D. Ellie picks 2 more flowers than Bill.
E. Ellie picks 10 more flowers than Bill.

42 The picture below shows the location of houses of 4 small animals. They want to build a straight road between each two houses. How many roads do they need to build in total?

A. 4 B. 5 C. 6 D. 7 E. 8

43 The three numbers on each side of the triangle below have a sum of 15. What number does B represent?



A. 8 B. 9 C. 10 D. 6 E. 7

44 Do you know what the rabbit must have bought?

A. B. C. D. E.

45 Observe the figure below. If we pull the top ring up, how many rings are not pulled up?

A. 1 B. 2 C. 3 D. 4 E. 5

NOTE

NOTE