

MK 4-POINTERS WORKBOOK

LV3-4

Logical Reasoning



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WORKBOOK GUIDELINE



In the following week, you can use this workbook to understand this module better. If you make a mistake, please review your class notes or watch the playback!

- Each week will cover one topic
- Record your time and accuracy on the tracker
- Use stickers or stamps to record your progress



Example

WEEK 0

	Time	#Wrong	Difficulty
Mon	30 min	2	★ ★ ★

Logical Reasoning

WEEK 1



Time

#Wrong

Difficulty



Mon

Tue

Wed

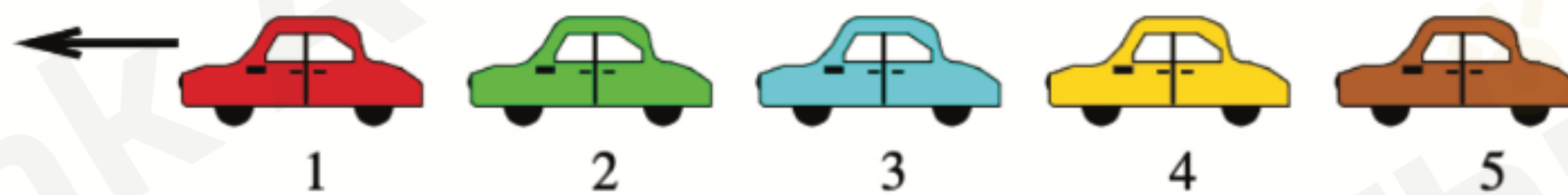
Thu

Fri

Logical Reasoning

Day 1 & Day 2

1. Five cars numbered 1, 2, 3, 4 and 5 are moving in the same direction. First, the second to last car 4 passes the two cars ahead of it. Next middle car passes the one car ahead of it. Finally the middle car passes the two cars ahead of it. In what order are the cars now?



A. 4, 1, 2, 5, 3

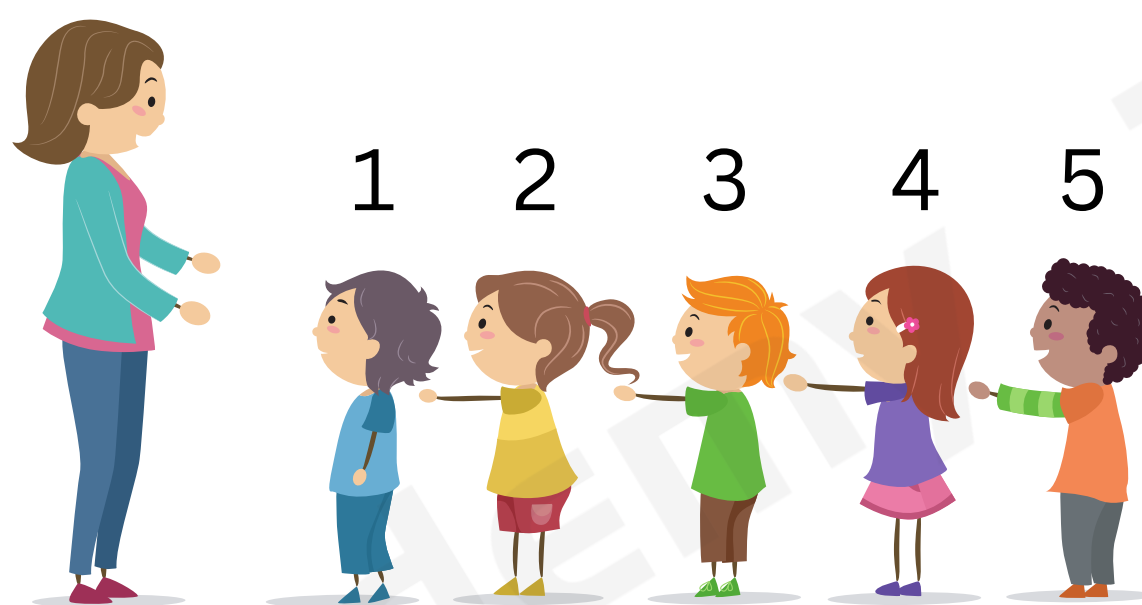
B. 3, 1, 4, 2, 5

C. 4, 1, 2, 3, 5

D. 2, 1, 5, 3, 4

E. 2, 3, 1, 5, 4

2. Five kids 1, 2, 3, 4, 5 are waiting in line to get their stickers from their teacher. Teacher asks them to line up in a certain way: the last kid 5 has to first move 3 places forward; then the second to last kid has to move 1 place forward; finally, the middle kid has to move 2 places forward. How will they line up?



A. 2, 1, 3, 4, 5

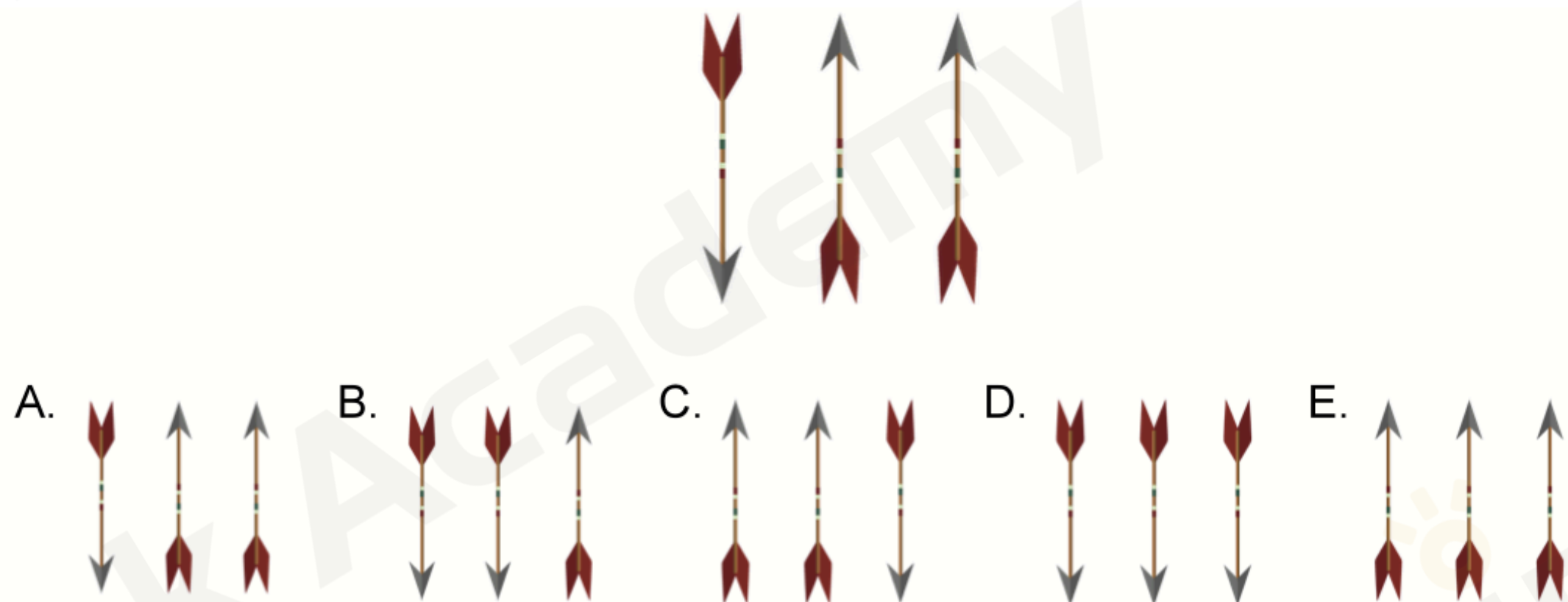
B. 3, 1, 5, 2, 4

C. 1, 5, 2, 3, 4

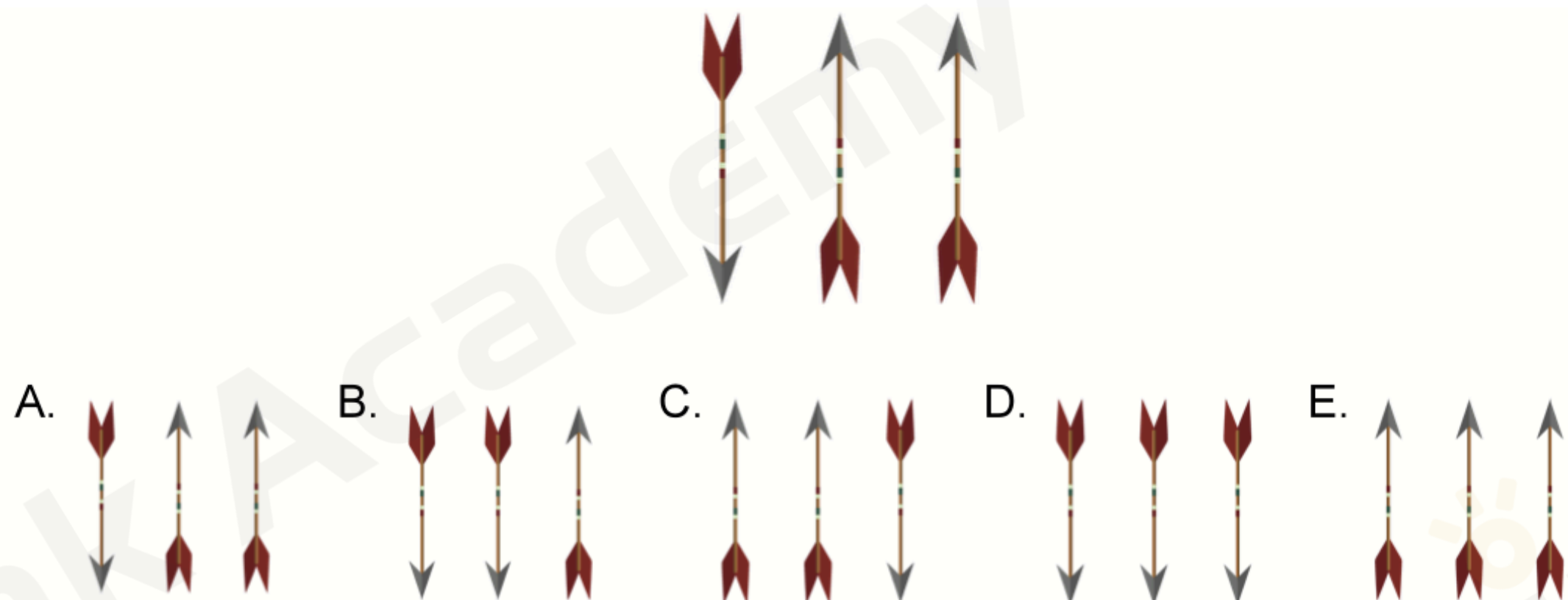
D. 3, 1, 2, 5, 4

E. 1, 5, 3, 2, 4

3. Jessica plays with 3 arrows on a table. In each move, she takes the arrow on the left, flips it over, and puts it to the right of the other arrows. The picture shows the arrows before the first move. What do the arrows look like after 16 moves?



4. Jessica wants to play the game in a different way. This time, she takes the arrow on the right, flips it over, and puts it to the left of the other arrows. What do the arrows look like after 10 moves?



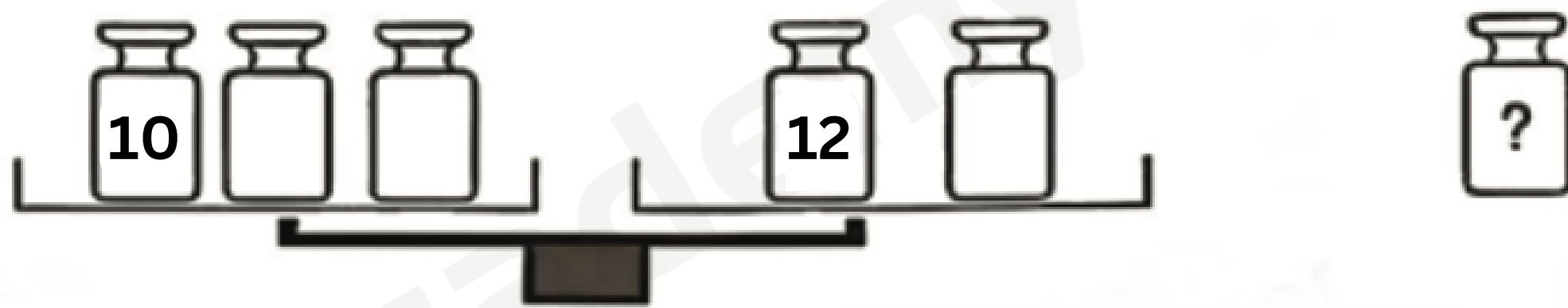
5. Four kids 1, 2, 3, 4 are playing a line-up game. The kid on the right most, 1, first moved 2 positions to the left side. Then the second one from the left side moved 2 positions to the right side. Finally, the one on the left most moved 1 position to the right side. What is the final order by the end of this game?



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

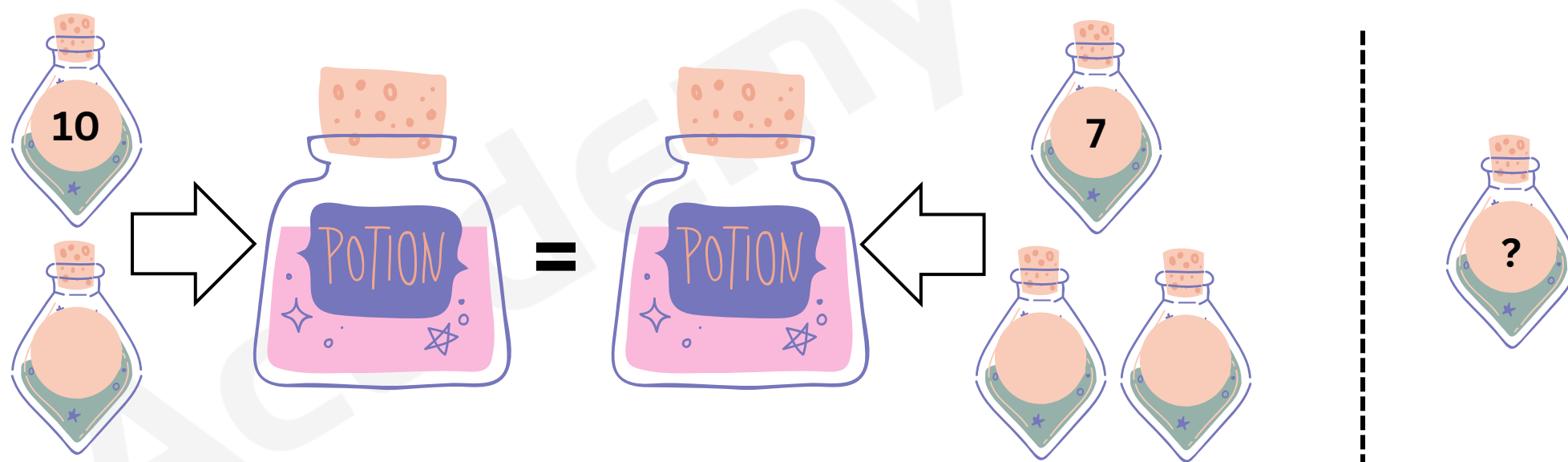
Take a rest!

6. There are six weights of 2, 4, 6, 8, 10 and 12 kg. Rose puts five of them on the scales and puts one weight aside. The scales balance. Which weight did she put aside?



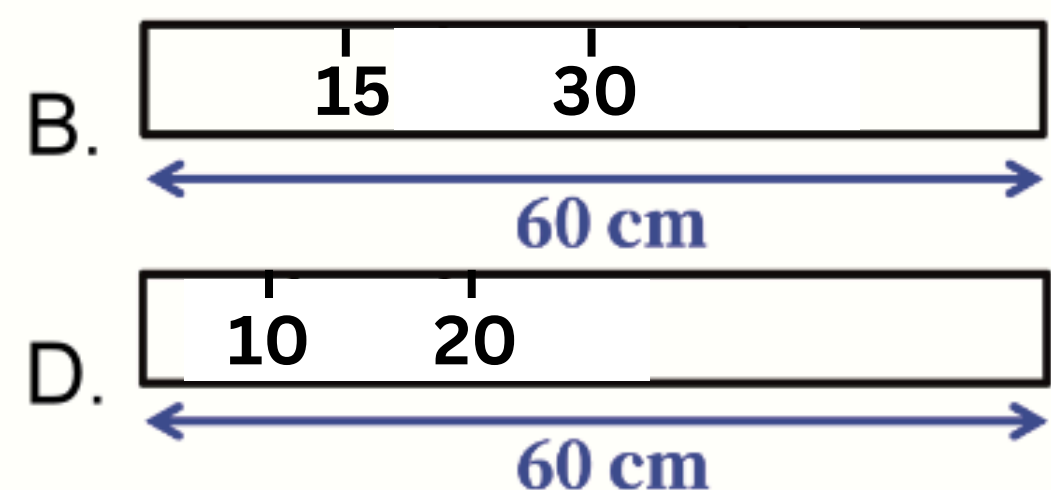
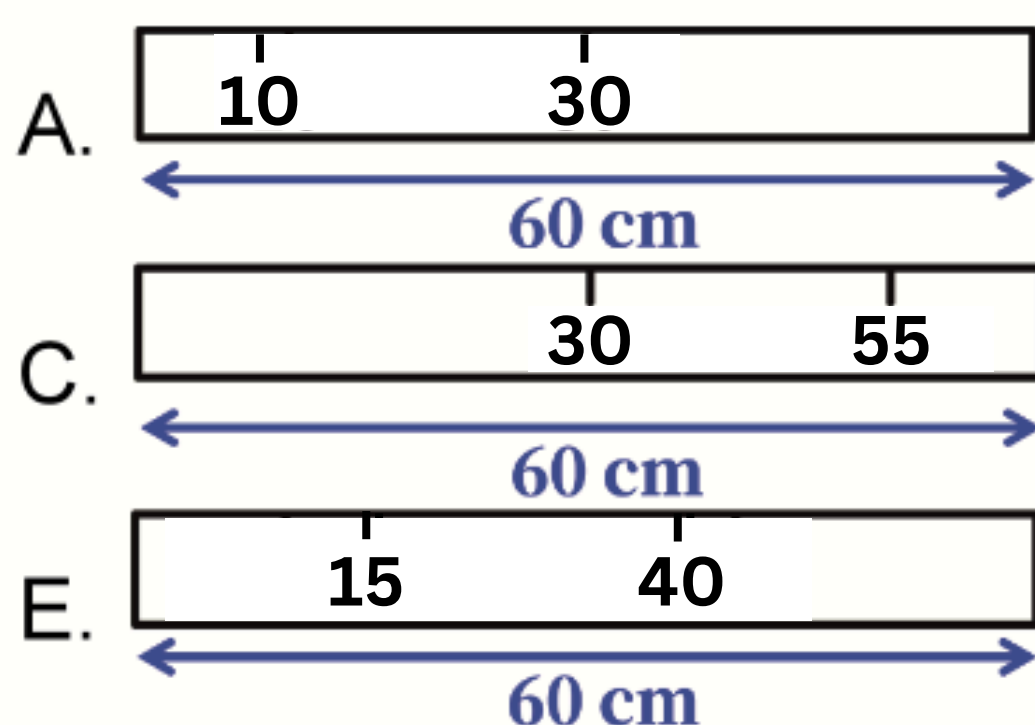
- A. 2kg B. 4kg C. 6kg D. 8kg E. Don't know

7. There are six bottles of identical magic portions, weighing 2, 5, 6, 7, 9 and 10 kg. Ryan the wizard wants to mix them to have two bottles of same weight. Which bottle will Ryan not use?



- A. 2kg B. 5kg C. 6kg D. 9kg E. Don't know

8. Helen has a 60 cm ruler. Unfortunately, some of the markings have faded away. She is able to measure any of the lengths 15, 20, 25, 40, 45 and 60 cm using her ruler only once. Which is Helen's ruler?

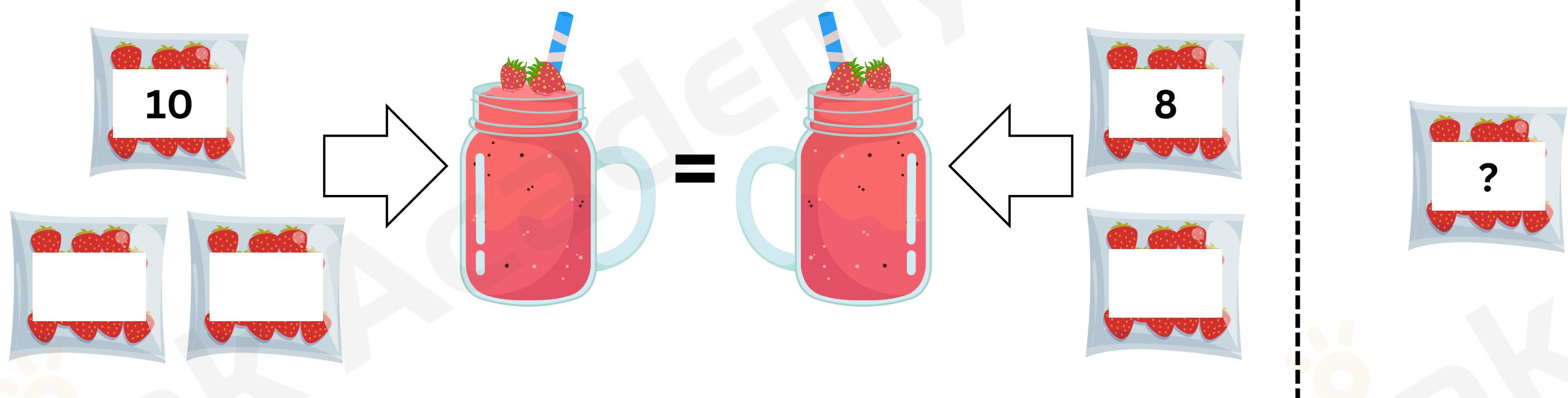


9. Momo the Monkey wants to make 2 equal cups of banana smoothies to share with his friend. He has bundles of bananas, having 1, 2, 3, 4, 5, and 6 bananas in each bundle. Which bundle will he not use?



- A. 1kg B. 2kg C. 3kg D. 4kg E. Don't know

10. Bubu the Bunny wants to make 2 equal cups of strawberry smoothies to share with her friend. She has bags of strawberries, having 1, 4, 7, 8, 9, and 10 strawberries in each bag. Which bag will she not use?



- A. 1kg B. 4kg C. 7kg D. 9kg E. Don't know

Equal and Balance

Day 3

1. Which of the following is true?

$$\text{♥} + \text{♥} + \text{♥} + \text{♥} + \text{♥} + \text{●} = \text{●} + \text{●} + \text{●}$$

A. $\text{♥} + \text{♥} = \text{●}$

B. $\text{●} + \text{●} = \text{♥}$

C. $\text{●} + \text{●} = \text{♥}$

D. $\text{♥} = \text{●}$

E. $\text{♥} + \text{♥} + \text{♥} = \text{●}$

2. The same shape represents the same number, and different shapes represent different numbers. What number does $\text{■} - \text{▼}$ stand for?

$$\text{■} + \text{■} + \text{▼} + \text{★} = 35$$

$$\text{▼} + \text{■} + \text{▼} + \text{★} = 12$$

A. 21

B. 22

C. 23

D. 24

E. 25

3. Which of the following is true *for sure*?

$$\text{◆} + \text{◆} + \text{◆} + \text{◆} + \text{♥} + \text{★} = \text{♥} + \text{★} + \text{★} + \text{★}$$

A. $\text{♥} + \text{♥} = \text{◆}$

B. $\text{◆} + \text{◆} = \text{★}$

C. $\text{★} + \text{★} = \text{◆}$

D. $\text{♥} = \text{★}$

E. $\text{♥} + \text{♥} + \text{♥} = \text{◆}$

4.



Together we cost 11 cents



Together we cost 9 cents



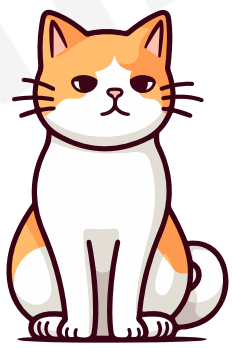
Together we cost 6 cents



How much do we cost?

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

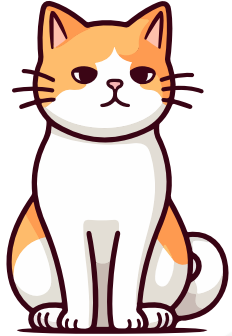
5.



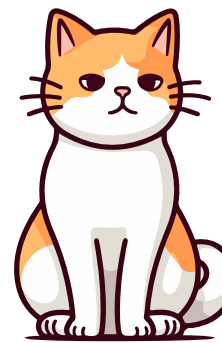
Together we weigh 17kg



Together we weigh 15kg



Together we weigh 12kg



How many kg are we?

A. 44kg B. 36kg C. 30kg D. 26kg E. 22kg

Fun Math

Day 4

1. Zoe wanted the sum of the three numbers in each row and in each column of the grid to be the same, but she made one mistake. Which number must she correct?

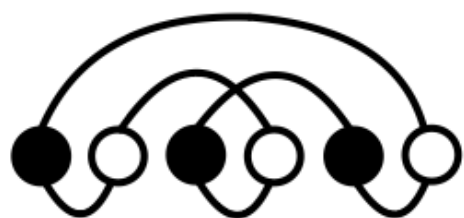
1	9	2
4	3	5
7	1	5

- A. the bottom 1 B. 2 C. 3 D. 7 E. all of the 5s

2. Jack and Jane want to prepare 5 cakes. The times each of them needs to make the 5 cakes are 40 min, 30 min, 25 min, 10 min, and 5 min. What is the shortest time in which they can finish all the cakes? (Each of them finishes one cake, and then makes another.)

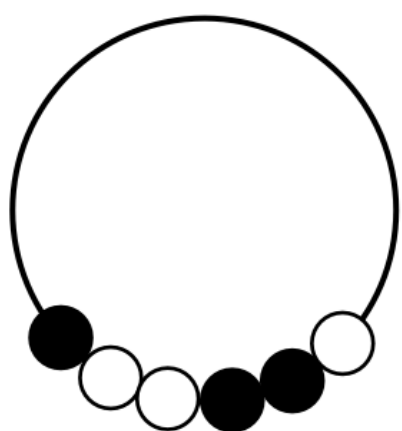
- A. 40 min B. 55 min C. 60 min D. 75 min E. 85 min

3. Here is a necklace with 6 beads.

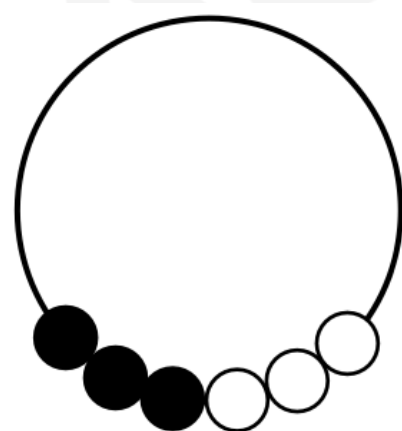


Which of the pictures below shows the same necklace?

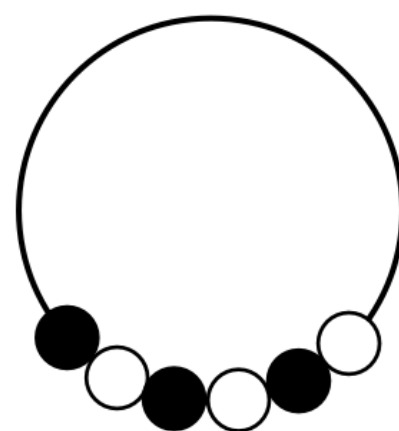
A.



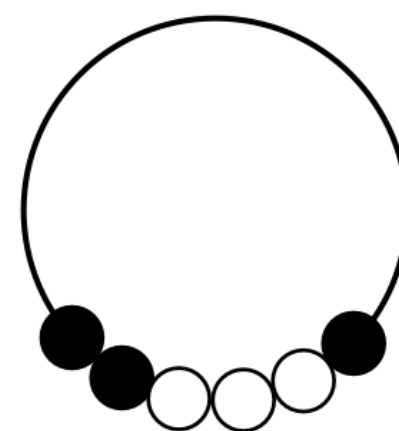
B.



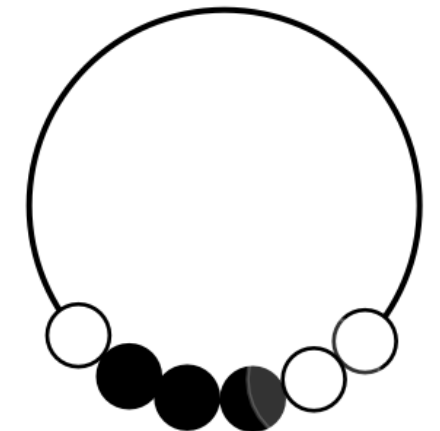
C.



D.

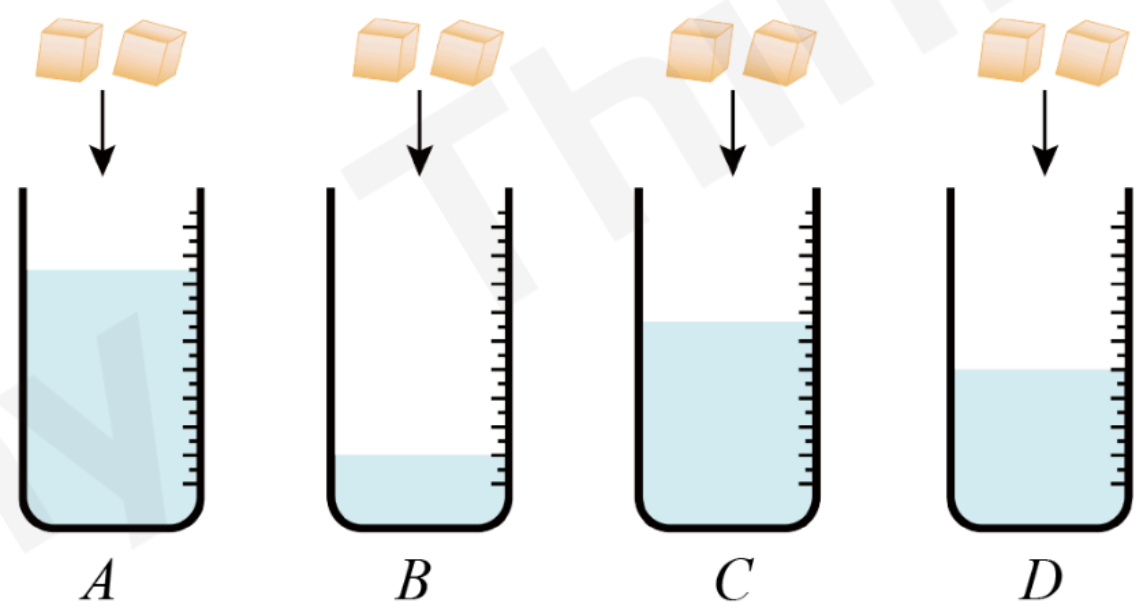


E.



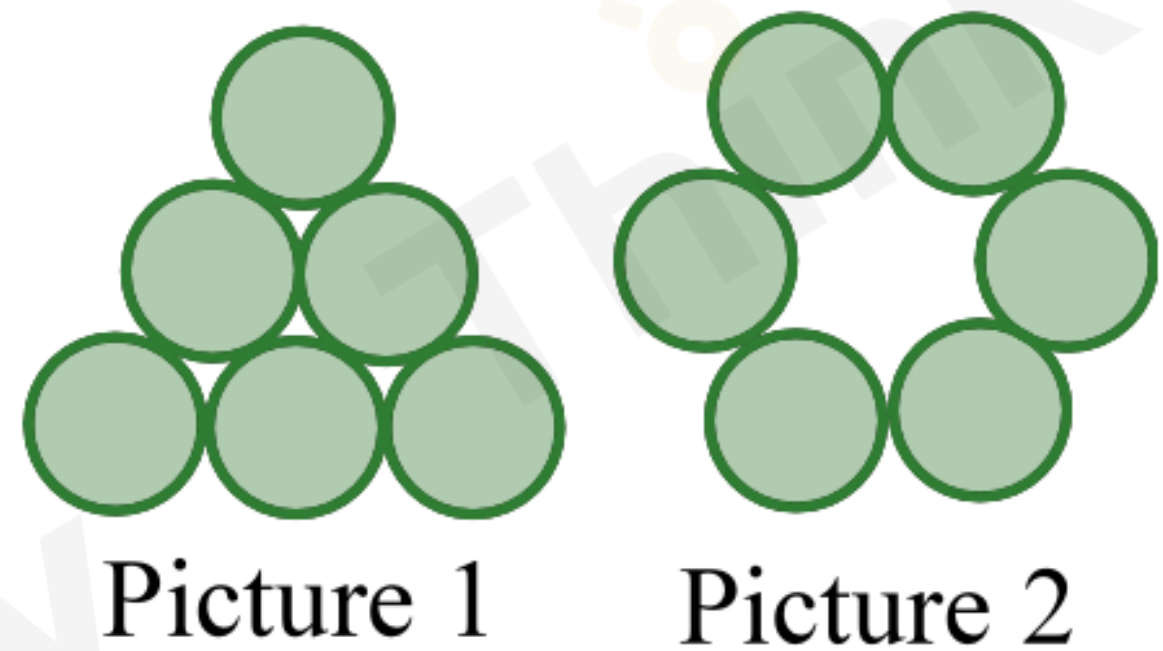
4. Put 2 cubes of sugar in each of the cups below. Which cup has the sweetest water?

- A. A cup
- B. B cup
- C. C cup
- D. D cup
- E. They are the same



5. The picture 1 shown below is made of 6 identical coins. What is the smallest number of coins that we need to move to make the figure in picture 2?

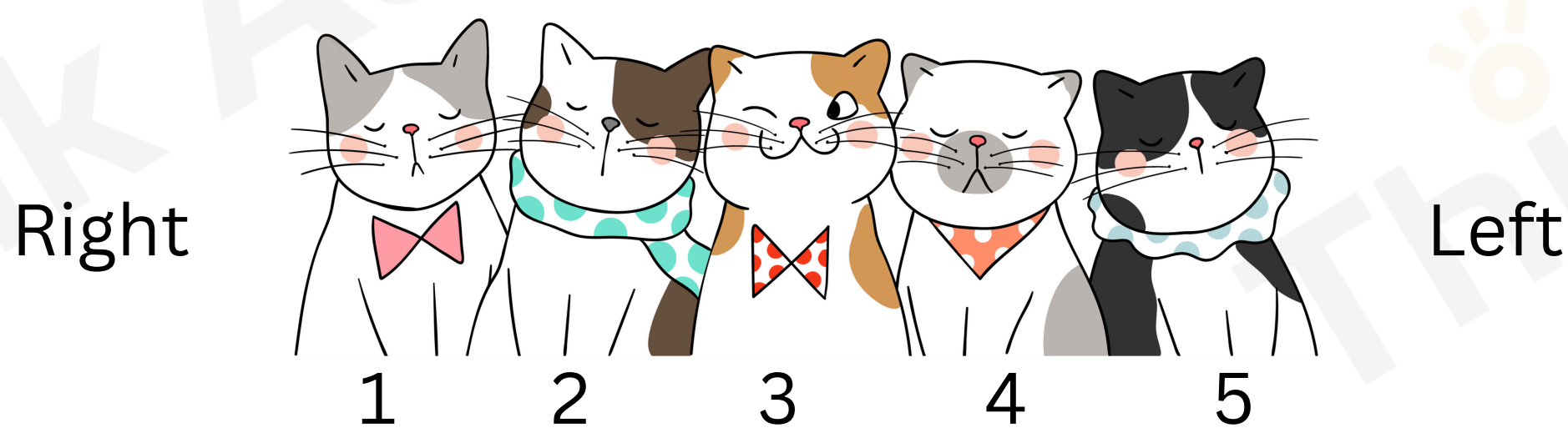
- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



Week Review

Day 5

1. Five cats numbered 1, 2, 3, 4 and 5 are taking a photo. The cat in the middle, 3, first moved 2 positions to their right, being next to 1. Then the cat on their left most moved 3 positions to the right. Finally, the cat in the middle moved 1 position to the left. What is their final order from their right to their left?



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

2. Which of the following is true?

$$\text{Heart} + \text{Circle} + \text{Circle} + \text{Heart} + \text{Heart} + \text{Heart} = \text{Heart} + \text{Heart} + \text{Circle} + \text{Circle} + \text{Circle}$$

A. $\text{Heart} + \text{Heart} = \text{Circle}$

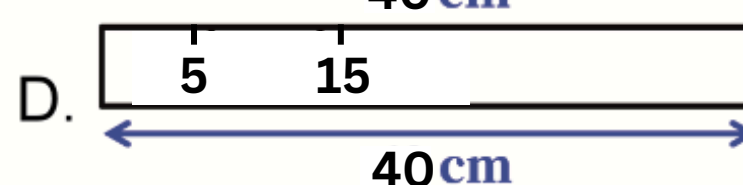
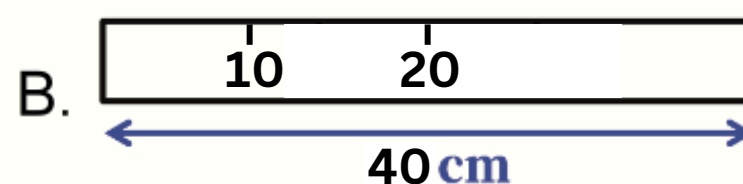
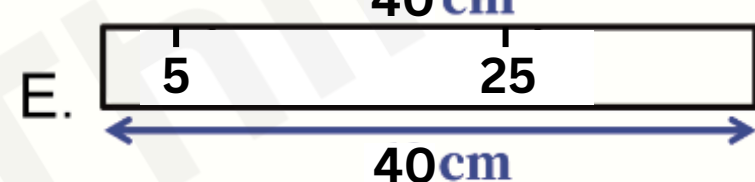
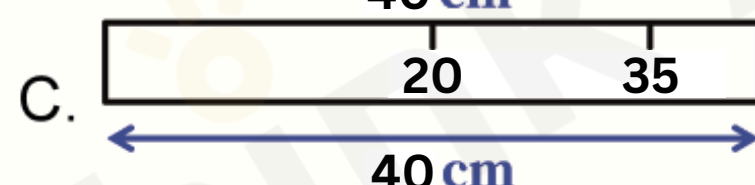
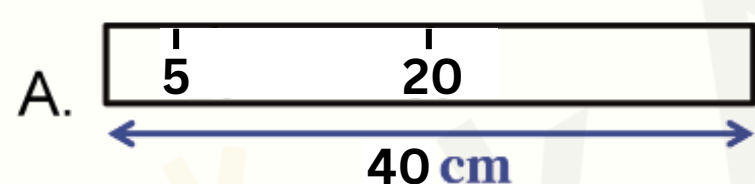
B. $\text{Circle} + \text{Circle} = \text{Heart}$

C. $\text{Circle} + \text{Heart} = \text{Circle}$

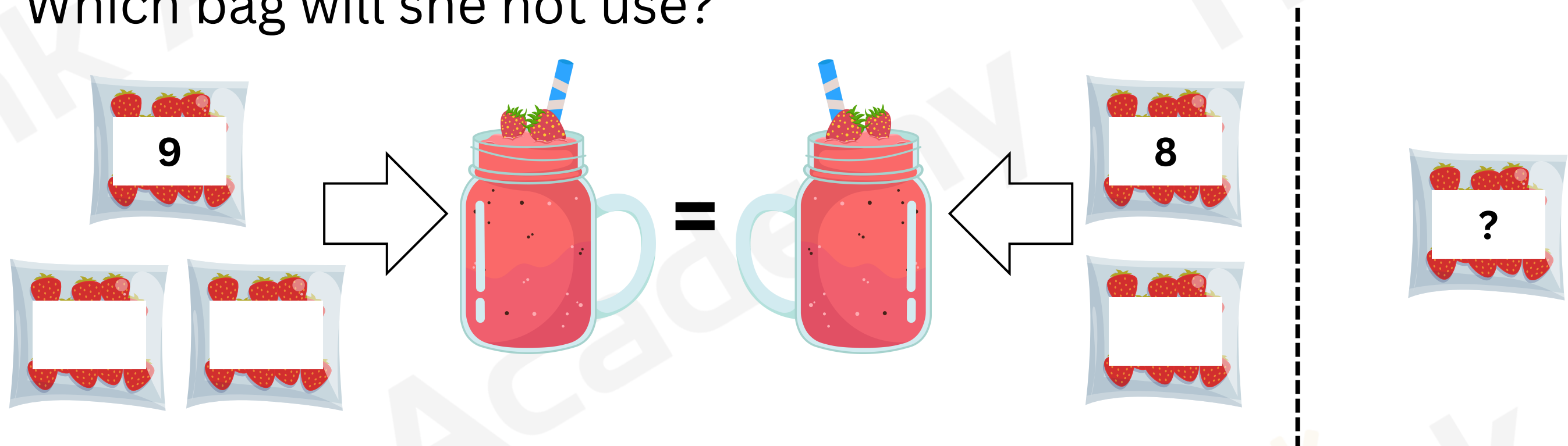
D. $\text{Heart} = \text{Circle}$

E. $\text{Heart} + \text{Heart} + \text{Heart} = \text{Circle}$

3. George has a 40 cm ruler. Unfortunately, some of the markings have faded away. He is able to measure any of the lengths 5, 10, 15, 25, 35 and 40 cm using his ruler only once. Which is George's ruler?



4. Bubu the Bunny wants to make 2 equal cups of strawberry smoothies to share with her friend. She has bags of strawberries, having 1, 3, 4, 6, 8, and 9 strawberries in each bag. Which bag will she not use?



- A. 1kg B. 3kg C. 4kg D. 6kg E. Don't know

5. Kate and Kevin want to prepare 5 smoothies. The times each of them needs to make the smoothies are 15 min, 8 min, 10 min, 3 min, and 5 min. What is the shortest time in which they can finish all the smoothies? (Each of them finishes one smoothie, and then makes another.)

- A. 16 min B. 18 min C. 21 min D. 25 min E. 28 min



**CONGRATULATIONS!
YOU FINISHED WEEK 1!**

Answers

Logical Reasoning - Day 1&2
CBDCB ADEAD

Equal and Balance - Day 3
ECBBE

Fun Math - Day 4
ABABB

Week Review - Day 5
BADBC

MK 4-POINTERS WORKBOOK

LV3-4

Word Problems



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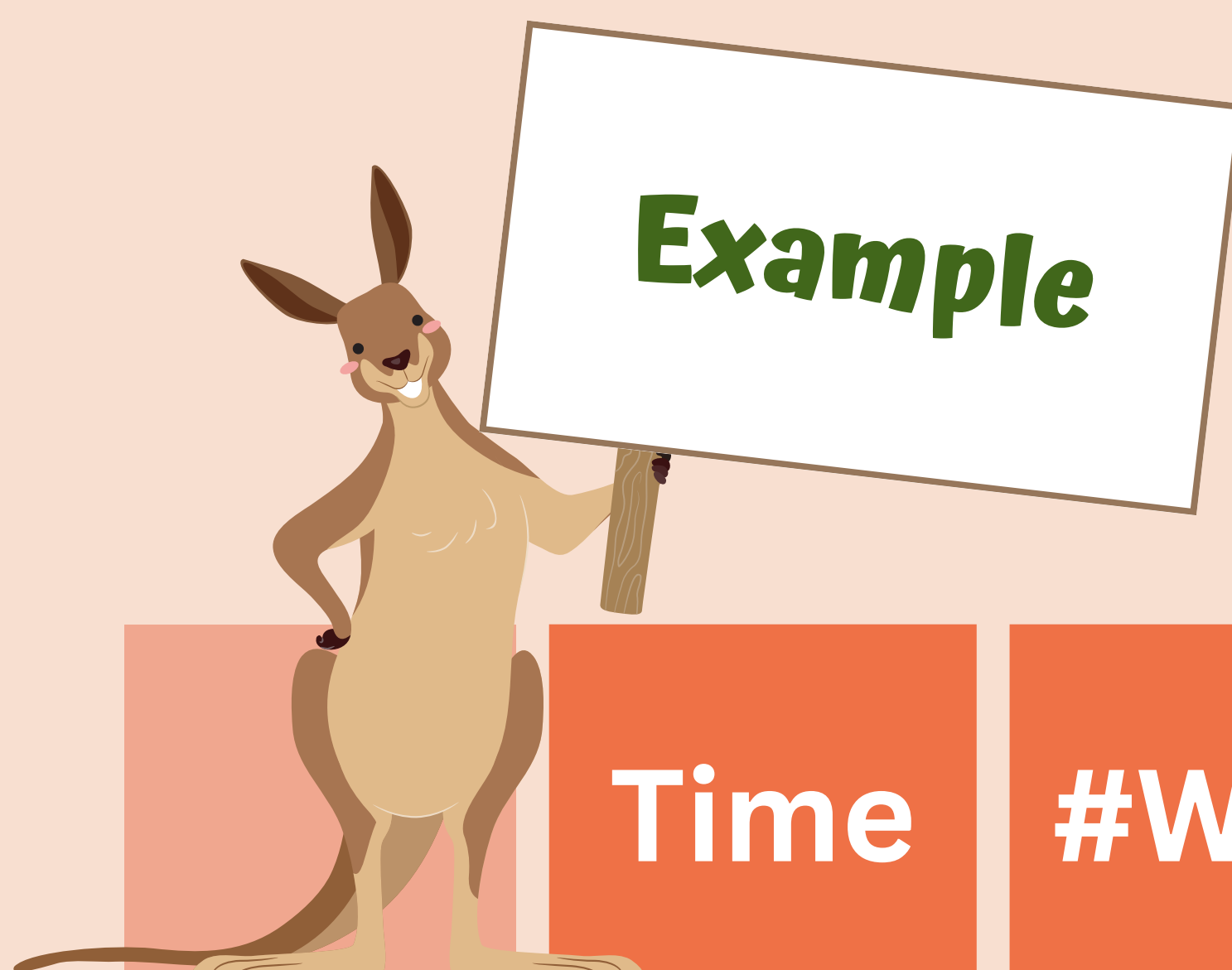


WORKBOOK GUIDELINE



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WEEK 0

	Time	#Wrong	Difficulty
			★ ★ ★
Mon	30 min	2	★ ★ ★

Word Problem

WEEK 2



Time

#Wrong

Difficulty



Mon

Tue

Wed

Thu

Fri

Basic Word Problem

Day 1

1. The Koala ate some leaves from 3 branches. Each branch had 16 leaves. The Koala ate a few leaves from the first branch and then ate as many leaves from the second branch as were left on the first branch. Then it ate 5 leaves from the third branch. How many leaves in total were left on the 3 branches?



- A. 25 B. 26 C. 27 D. 30 E. 32

2. The Panda ate some sections from 3 bamboos. Each bamboo had 10 sections. First, the panda ate 3 sections from the first bamboo. Then, he ate a few sections from the second bamboo. Finally, he ate as many sections from the third bamboo as were left on the second bamboo. In total, how many sections were left on the 3 bamboos?



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

3. Zoe stored her dolls in 3 wardrobes. Each wardrobe had 12 dolls. Zoe gave several dolls to her younger sister from the first wardrobe, and then gave some dolls to her elder sister from the second wardrobe. The number of dolls received by the elder sister equals to the number of dolls left in the first wardrobe. Finally, Zoe gave 7 of the dolls in the third wardrobe to her best friend Audrey. How many dolls does Zoe still have left?

- A. 17 B. 19 C. 20 D. 21 E. 22

4. In each of two boxes there were 16 strawberries. Ria took a certain number of strawberries from the first box. Then Tia took from the second box a number of strawberries equal to the number of strawberries remaining in the first box. How many strawberries were left in both boxes together?

- A. 10 B. 16 C. 20 D. 28 E. 32

5. There were 30 toy cars on each shelf. John took some toy cars from the first shelf. Then George took some from the second shelf: he took as many toy cars as were left on the first shelf! How many toy cars in total were left on both shelves?

- A. 10 B. 20 C. 30 D. 50 E. 60

Line up

Day 2 & Day 3

1. In a speed skating competition, 12 skaters reached the finish line. The number of skaters that came in before Tom was 3 less than the number of skaters who came in after him. Which place did Tom end up in?

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

2. There were 14 animals having a running competition. Turtle thought he was the last, but actually there were several animals even slower than him. He counted and found out that the number of animals in front of him was 5 more than the animals after him. How many animals were after turtle?

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

3. Jason and Jessica live on the same street. This street runs along a river, and the houses are only on one side of the street. There are 32 houses to the left of Jason's house, and there are 52 houses to the right of Jason's house. The number of houses to the left of Jessica's house is equal to the number of houses to the right of Jessica's house. How many houses are there between Jason's house and Jessica's house?

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

4. Luke and Lucy live on the same street. The houses are only on one side of the street. There are 65 houses to the left of Luke's house, and there are 21 houses to the right of Luke's house. The number of houses to the left of Lucy's house is equal to the number of houses to the right of Lucy's house. How many houses are there between Luke's house and Lucy's house?

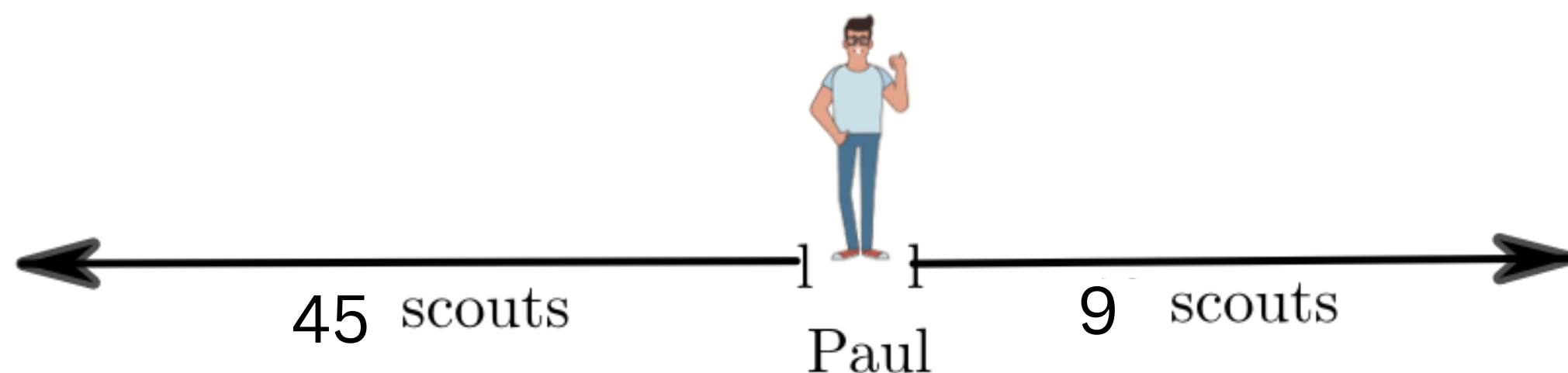
- A. 17 B. 18 C. 19 D. 20 E. 21

5. Lisa organized her wardrobe. On the left side of her favorite black dress, there were 13 pieces of clothes. On the right side of the black dress, there were 25 pieces of clothes. The number of clothes on the left side of the red dress is the same as the number of clothes on the right side of the red dress. How many pieces of clothes did she put in the wardrobe, counting from the black dress to the red dress?

- A. 5 B. 6 C. 7 D. 8 E. 9

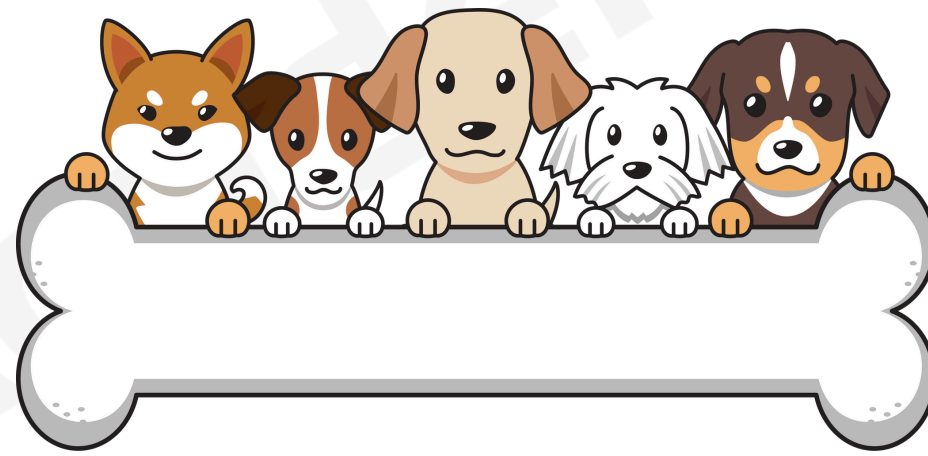
----- Take a rest! -----

6. Peter and Paul went to a boy scout camp. During a meeting, the scouts stood in a single row. On one side of Paul there were 45 scouts, and on the other side there were 9 scouts. Peter was standing exactly in the middle of the row. How many scouts were there between Peter and Paul?



- A. 12 B. 13 C. 17 D. 18 E. 20

7. A group of dogs were taking a photo, standing in a row. Among them, there was dog DiDi and dog DuDu. On left side of DiDi were 14 dogs and on the right side of DiDi were 6 dogs. The number of dogs on the left side of DuDu were 2 less than the number of dogs on the right side of DuDu. How many dogs were between DiDi and DuDu?



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

8. Ray put several different cakes in a row. There were 7 cakes on one side of the red velvet cake, and 15 cakes on the other side of the red velvet cake. The chocolate cake was right in the middle of the row of cakes. How many cakes are between the red velvet cake and the chocolate cake?

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

9. For the performance, people line up in a rectangular array. Counting from the front, Kate is the 4th person, and counting from the back, Kate is the 7th person. There are 5 people to the left of Kate, and there are 1 people to the right of Kate. How many people are there in the rectangular array in total?

- A. 40 B. 50 C. 66 D. 70 E. 72

10. The students in a class sit in rows. There is the same number of students in each row. There are 5 rows of students in front of Sam and 2 row of students behind him. In his row, there are 2 students on his left and 1 students on his right. How many students are there in this class?

A. 32

B. 21

C. 28

D. 24

E. 40

Surplus and Shortage

Day 4

1. In an ice-cream shop there was some money in a drawer. After selling 5 ice-cream cones, there are 120 dollars in the drawer. After selling a total of 15 ice-cream cones, there are 150 dollars in the drawer. How many dollars were there in the drawer at the start, before selling any cones?

- A. 90 B. 95 C. 100 D. 105 E. 110

2. In a bakery there was some money in a drawer. After selling 11 cakes, there are 154 dollars in the drawer. After selling a total of 20 cakes, there are 235 dollars in the drawer. How many dollars were there in the drawer at the start?

- A. 50 B. 55 C. 60 D. 65 E. 70

3. In a candy shop there was some money in a drawer. After selling 4 candies, there are 55 dollars in the drawer. After selling a total of 12 candies, there are 135 dollars in the drawer. How many dollars were there in the drawer at the start?

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

4. Grandma bought some candy. She gave each of her grandchildren 6 pieces of candy, and had 3 pieces left. If she wanted to give each of them 7 pieces of candy, she would be 2 pieces short. How many grandchildren does she have?

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

5. Karen wanted to give her pencils to her classmates. She gave each of her classmates 5 pencils, and she still had 6 pencils left. If she gave each of her classmates 6 pencils, she would be 5 pencils short. How many pencils did Karen had at the beginning?



A. 66

B. 61

C. 55

D.22

E. 11

Week Review

Day 5

1. The Koala ate some leaves from 3 branches. Each branch had 27 leaves. The Koala ate a few leaves from the first branch and then ate as many leaves from the second branch as were left on the first branch. Then it ate 7 leaves from the third branch. How many leaves in total were left on the 3 branches?

- A. 46 B. 47 C. 48 D. 49 E. 50

2. There were 2 boxes of chocolates. Elena took a certain number of chocolates from the first box. Then Julia took as many chocolates as remained in the first box from the second box. Originally, each box contained 12 chocolates. How many chocolates were left in both boxes?

- A. 6 B. 8 C. 10 D. 11 E. 12

3. In a running competition, 16 runners reached the finish line. The number of runners that came in before Jade was 3 less than the number of runners who came in after her. Which place did Jade end up in?

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

4. In a candy shop there was some money in a drawer. After selling 5 candies, there are 58 dollars in the drawer. After selling a total of 11 candies, there are 100 dollars in the drawer. How many dollars were there in the drawer at the start?

- A. 23 B. 24 C. 25 D. 26 E. 27

5. The students in a class sit in rows. There is the same number of students in each row. There are 5 rows of students in front of Daniel and 3 row of students behind him. In his row, there are 5 students on his left and 1 students on his right. How many students are there in this class?

A. 40

B. 48

C. 54

D. 56

E. 63



**CONGRATULATIONS!
YOU FINISHED WEEK 2!**

Answers

Basic Word Problem - Day 1
CBABC

Line Up - Day 2&3
CBBEC CBEDA

Surplus & Storage - Day 4
DBEEB

Week Review - Day 5
BEDAE

MK 4-POINTERS WORKBOOK

LV3-4

Geometry



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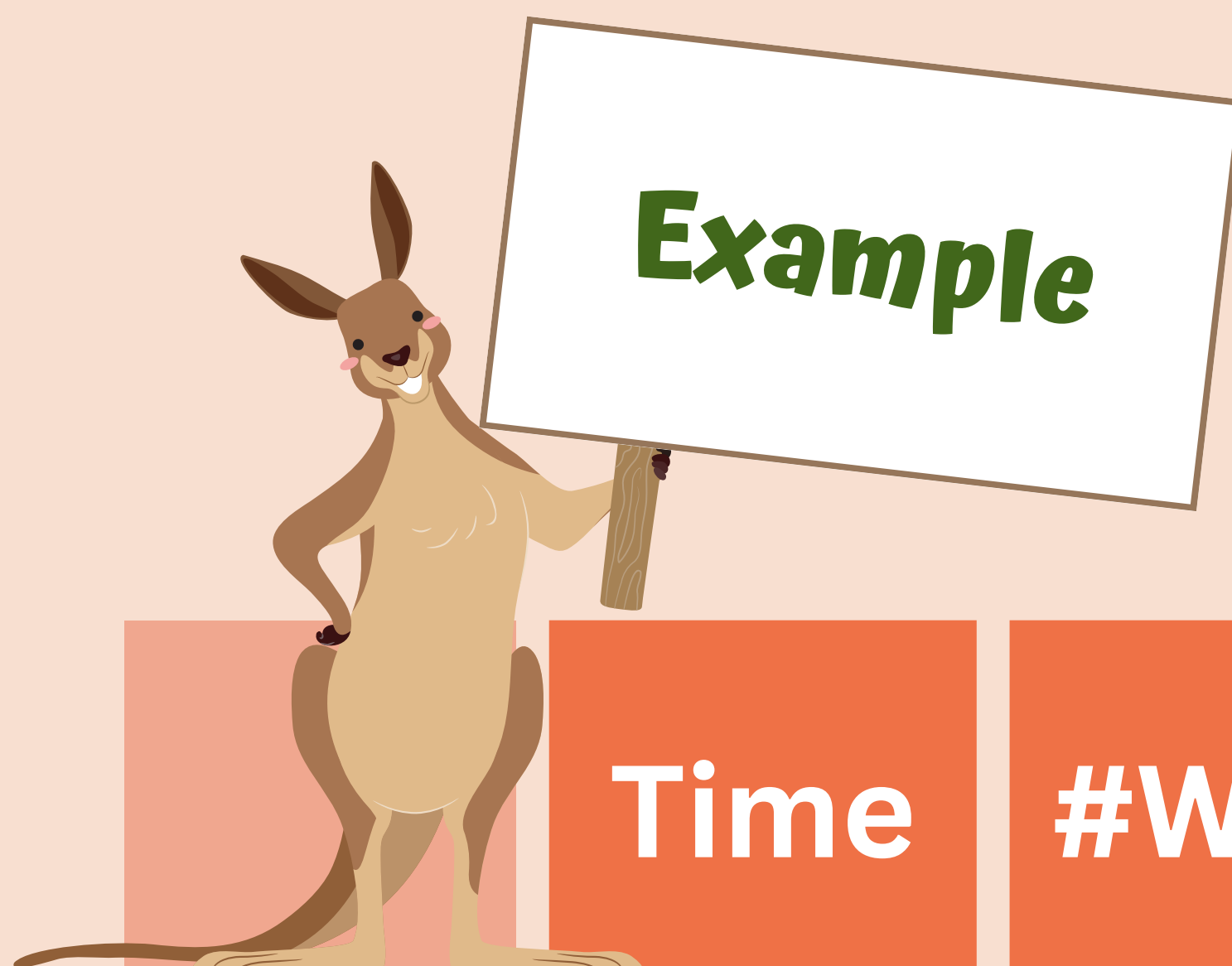


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WEEK 0

	Time	#Wrong	Difficulty
Mon	30 min	2	★ ★ ★

Geometry

WEEK 3



Time

#Wrong

Difficulty



Mon

Tue

Wed

Thu

Fri

Perimeter

Day 1 & Day 2

1. Donna and Joann had 64 matches altogether. Donna took as many matches as she needed to build a triangle with each side 4 matches long. Joann used the remaining matches to build a square. How many matches long is each of the sides of this square?

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

2. There were 48 pencils on the table. Dora took as many as needed to build a square with each side 6 pencils long. Audrey used the rest pencils to build a rectangle. One side of the rectangle equals to 6 pencils. How many pencils did Audrey put on each of the longer sides of this rectangle?

- A. 4 B. 5 C. 6 D. 7 E. 12

3. Grandpa has a 5 m by 30 m yard. One of the shorter sides of the yard is along the house. Grandpa decided to put a fence around the remaining three sides of the yard and to paint the fence. Painting 5 m of the fence uses 1 gallon paint. A can of one-gallon paint costs \$20. How much will Grandpa pay for the paint he needs to paint the whole fence?

- A. 200 B. 220 C. 240 D. 260 E. 400

4. The width of a rectangle is 4 cm long, while the length is three times the width. A square has the same perimeter as the rectangle. The side length of the square is

- A. 4 B. 6 C. 8 D. 10 E. 12

5. Grandpa has a 15 m by 40 m yard. One of the shorter sides of the yard is along the house. Grandpa decided to put a fence around the remaining three sides of the yard and to paint the fence. Painting 5 m of the fence uses 1 gallon paint. A can of three-gallon paint costs \$60. How much will Grandpa pay for the paint he needs to paint the whole fence? (When buying the paint, one has to buy the whole can and cannot buy half can)

- A. 460 B. 420 C. 380 D. 360 E. 340

----- **Take a rest!** -----

6. In a factory, there are 78 tubes in total. Kyle needs to build a triangle and a rectangle. Each side of the triangle needs 8 tubes. Each of the shorter sides of the rectangle needs 3 less tubes than each of the longer sides of the rectangle. How many tubes long was one of the long edges of Kyle's rectangle?

- A. 9 B. 10 C. 13 D. 14 E. 15

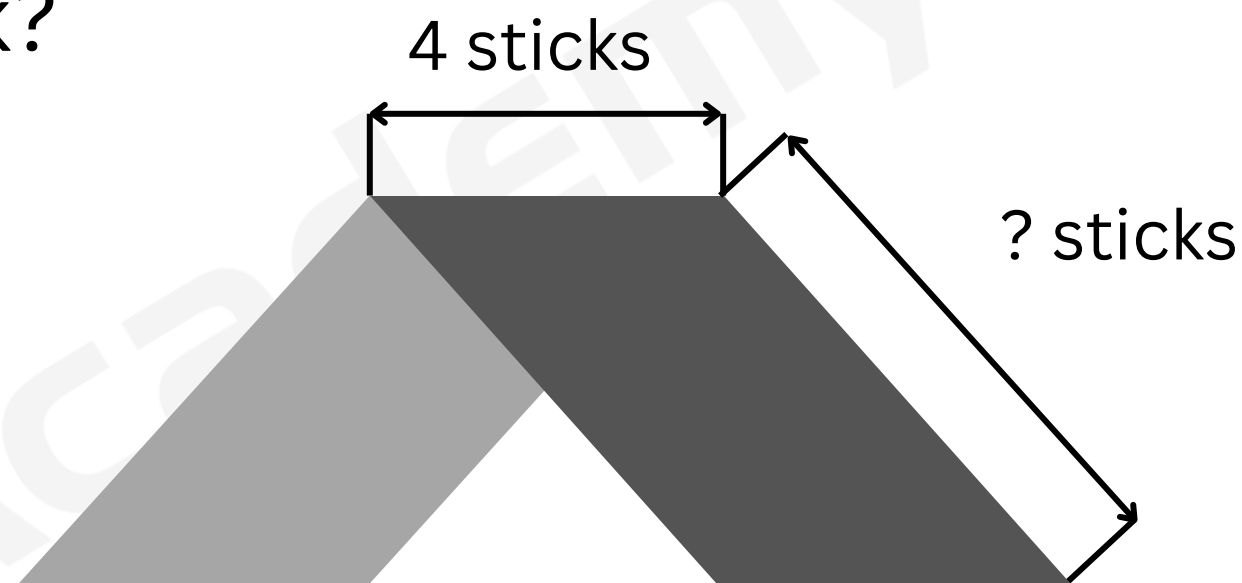
7. Cathy and Nancy had 75 matches altogether. Cathy took as many matches as she needed to build a triangle with each side 5 matches long. Nancy used the remaining matches to build a rectangle, which had one side equal to 18 matches. How many matches long is each of the shorter sides of this rectangle?

- A. 10 B. 12 C. 14 D. 16 E. 18

8. The width of a rectangle is 6 cm long, while the length is five times the width. An equilateral triangle (all three sides have the same length) has the same perimeter as the rectangle. The side length of the equilateral triangle is

- A. 12 B. 18 C. 24 D. 28 E. 32

9. Cindy wants to use some sticks to make the frame of rooftops for her doll house. The rooftop is made of two identical rectangles as shown below. The top edge is shared by two sides. Altogether she has 52 sticks. The top edge of the roof is 4 sticks long. How many sticks can be put at most for each of the side with question mark?



- A. 6 B. 8 C. 10 D. 12 E. 14

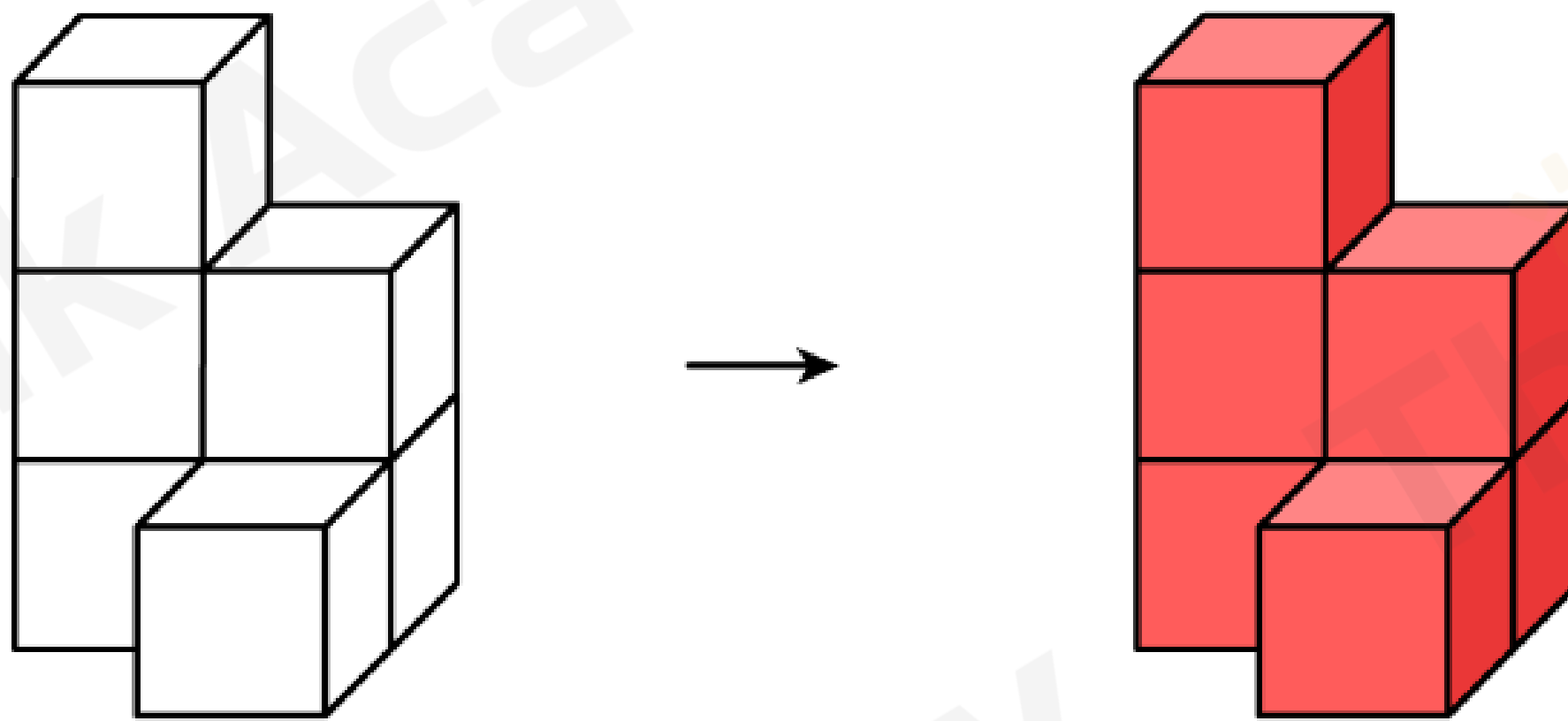
10. Grandpa has a 12 m by 30 m yard. One of the shorter sides of the yard is along the house. Grandpa decided to build fence around the remaining three sides of the yard. He uses 2 gallon paint every 8 m. Each bucket of one-gallon paint costs \$ 10. How much will grandpa pay for the paint he needs?

- A. 180 B. 200 C. 240 D. 280 E. 400

Color Cubes

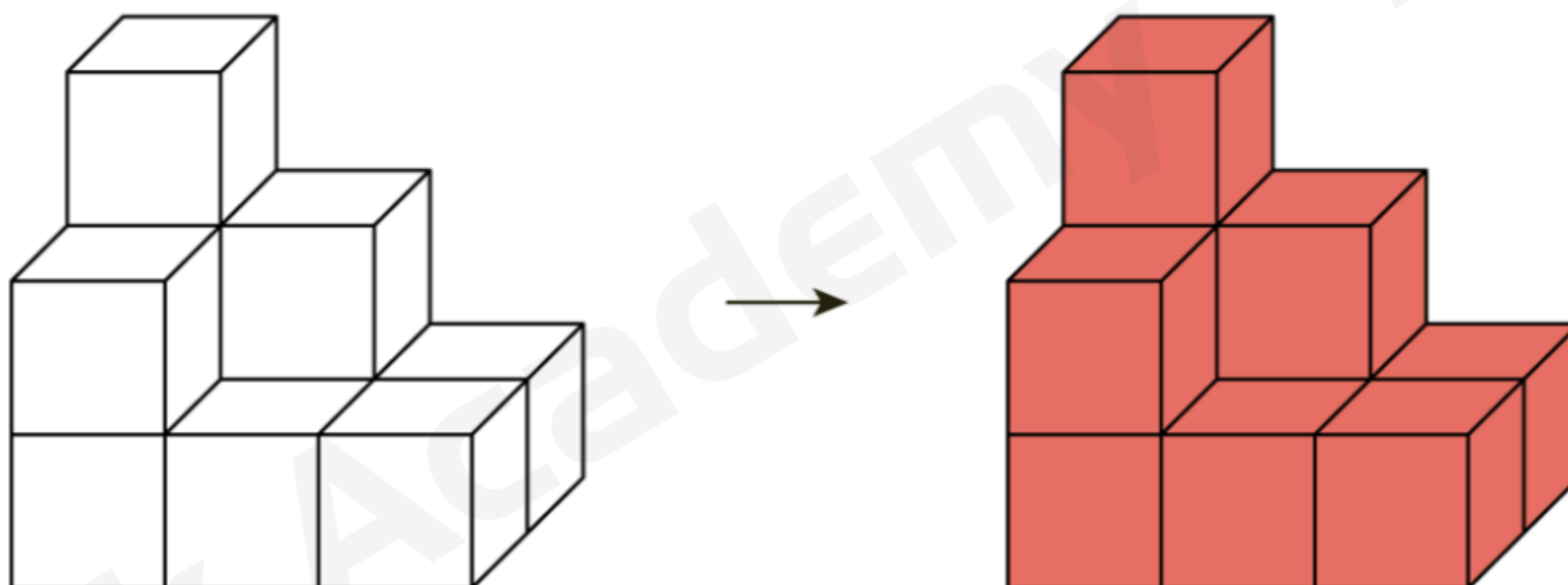
Day 3

1. Kate glues some cubes of the same size together to form the figures. Then she paints each whole figure as shown below. There are _____ squares painted of the figure below.



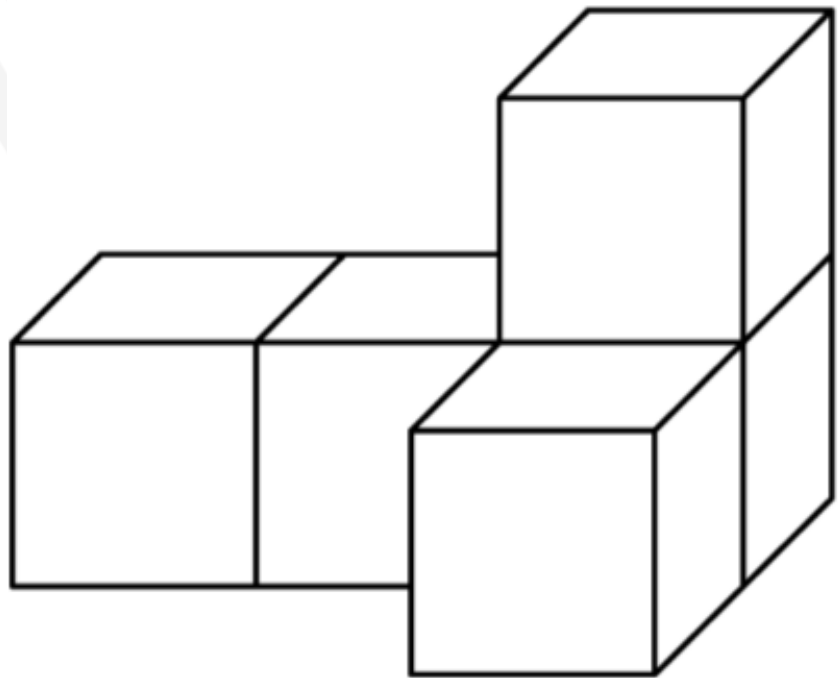
- A. 22 B. 24 C. 26 D. 28 E. 30

2. Ivy colored the whole figures below red, including the bottom side of the blocks. There are _____ squares painted of the figure below.



- A. 29 B. 33 C. 34 D. 39 E. 42

3. Jocelyn glues some cubes of the same size together to form the figures. Then she wants to paint the whole figure as shown below. There will be _____ squares painted of the figure below.



A. 22

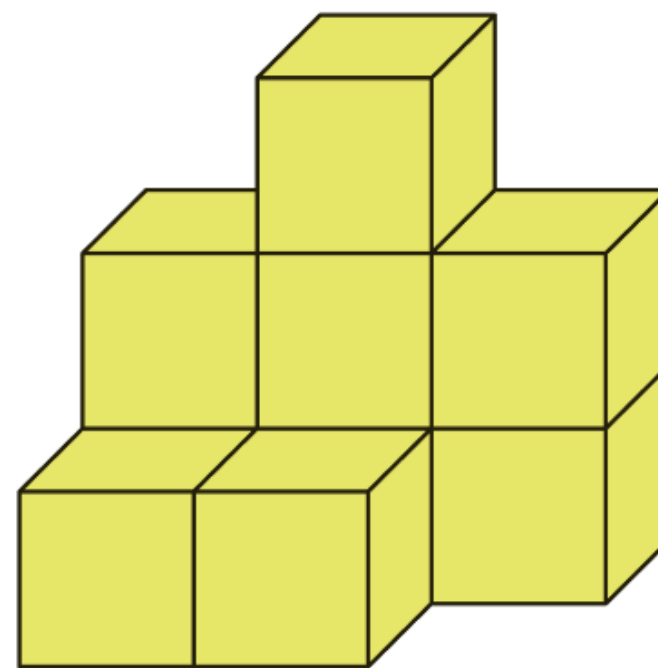
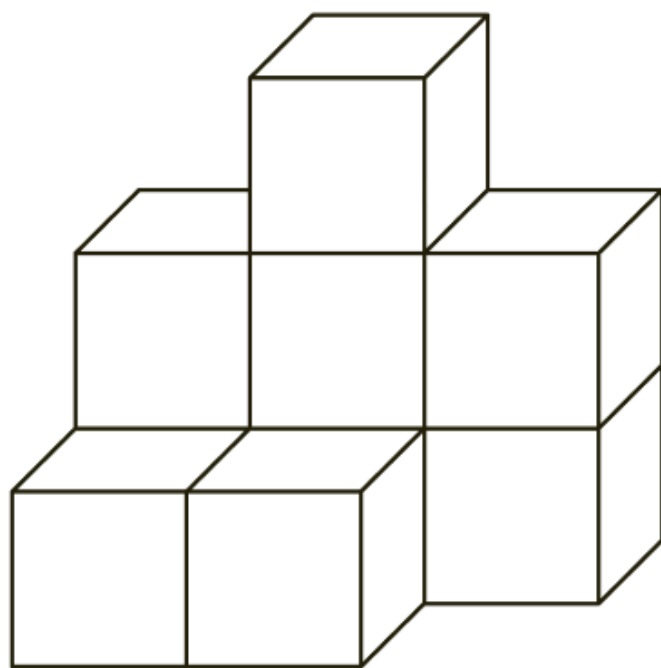
B. 24

C. 26

D. 28

E. 30

4. Jack colored the whole figures below yellow. There are _____ squares painted.



A. 28

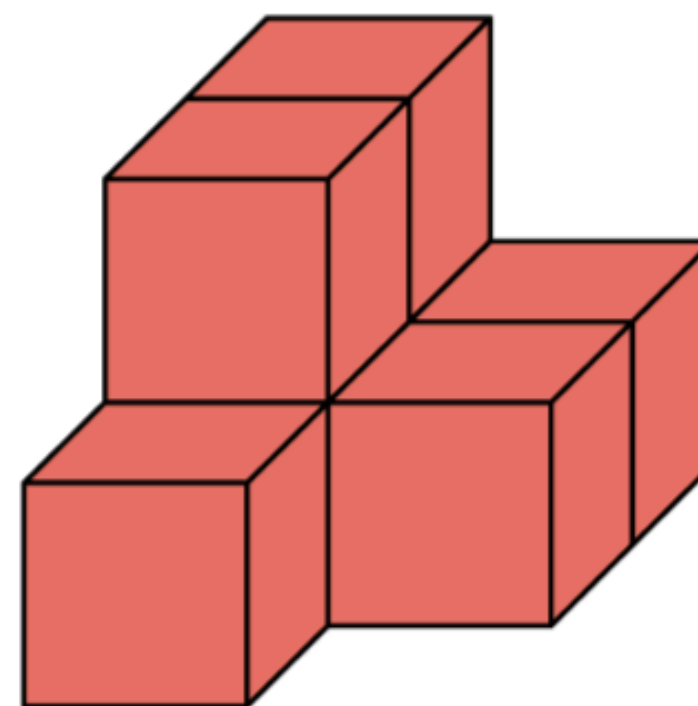
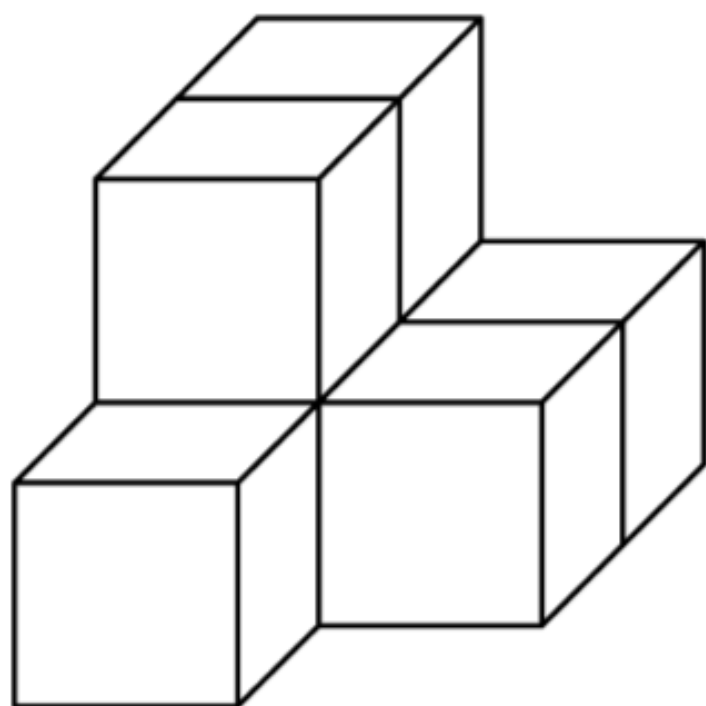
B. 29

C. 30

D. 31

E. 32

5. Cici colored the whole figures below red. There are _____ squares painted.



A. 20

B. 22

C. 24

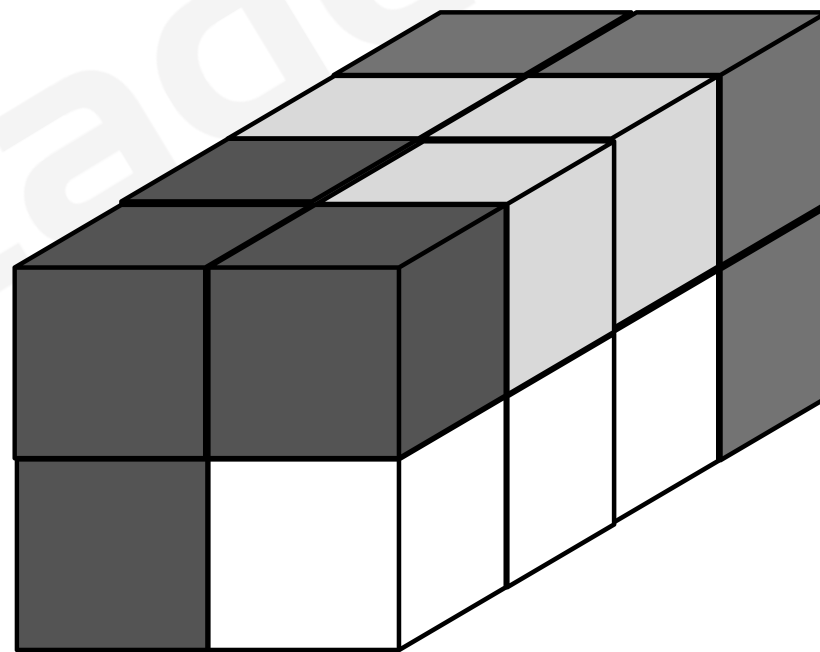
D. 26

E. 28

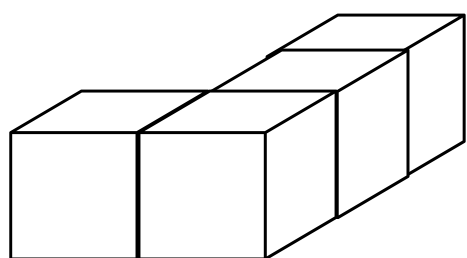
Form Solid Figure

Day 4

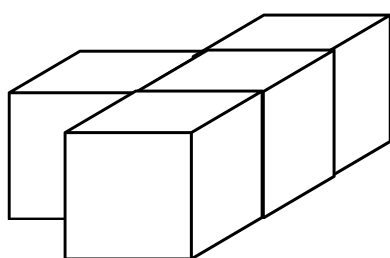
1. A rectangular prism is made of four pieces, as shown. Each piece consists of four cubes and is a single color. What is the shape of the white piece?



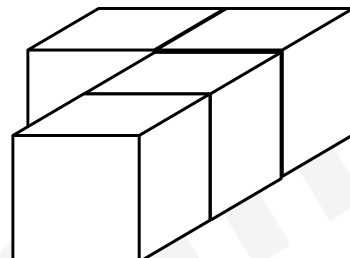
A.



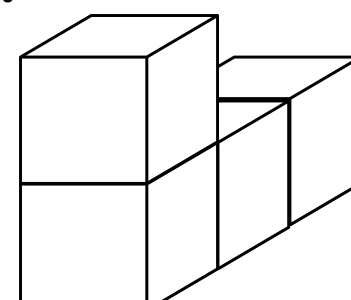
B.



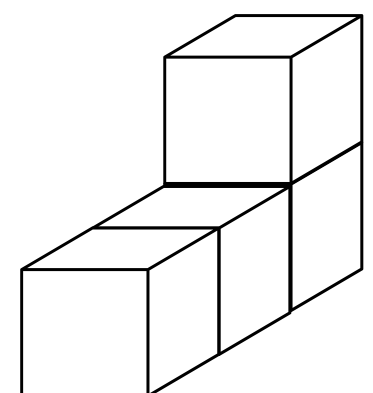
C.



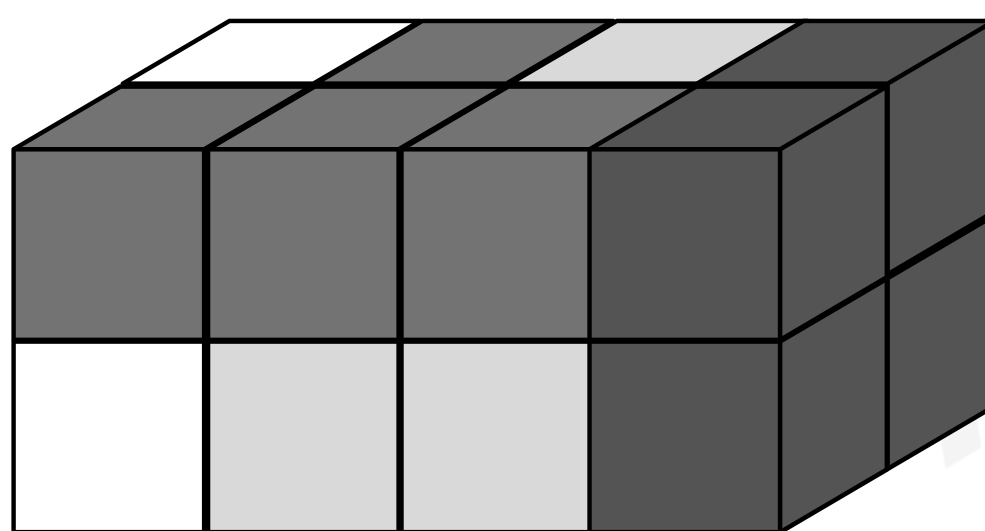
D.



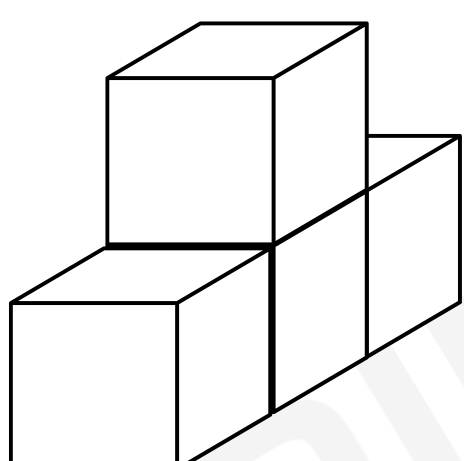
E.



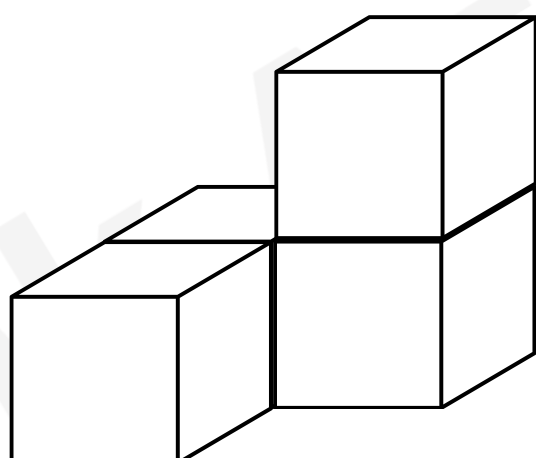
2. A rectangular prism is made of four pieces, as shown. Each piece consists of four cubes and is a single color. What is the shape of the white piece?



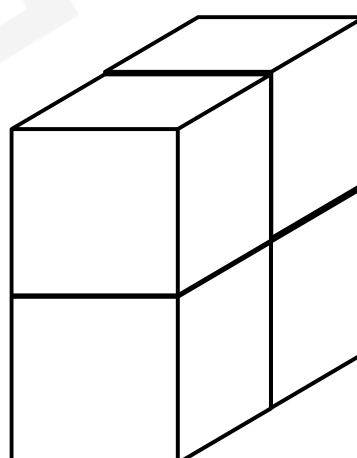
A.



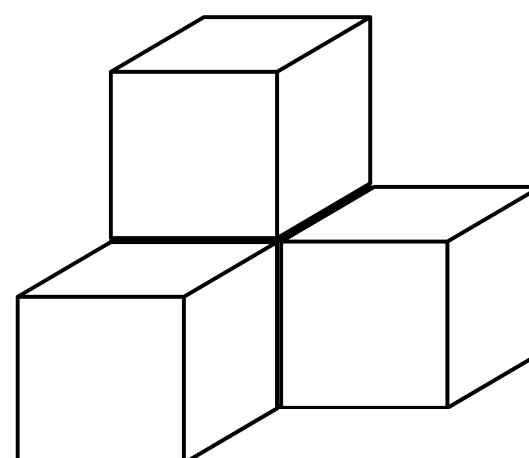
B.



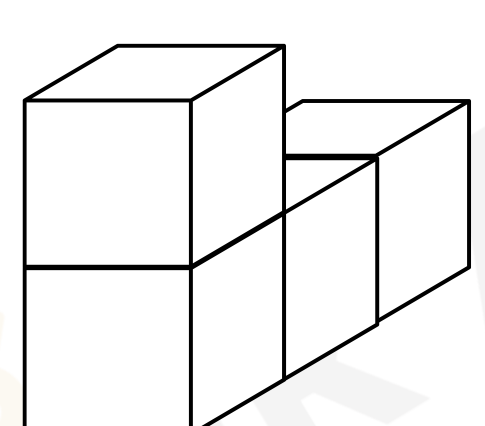
C.



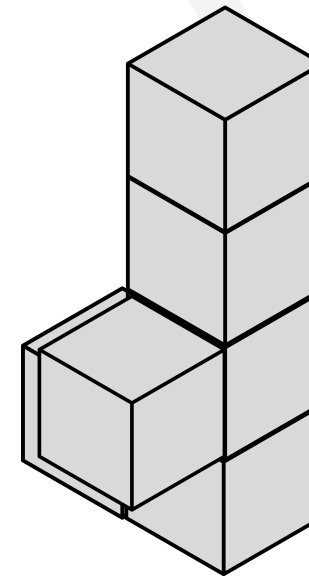
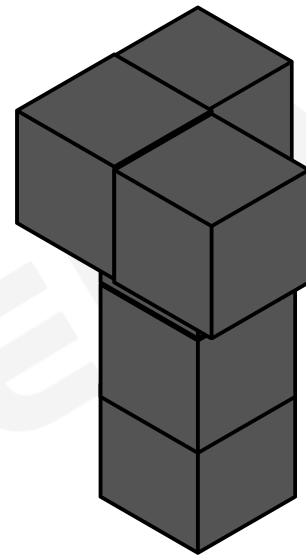
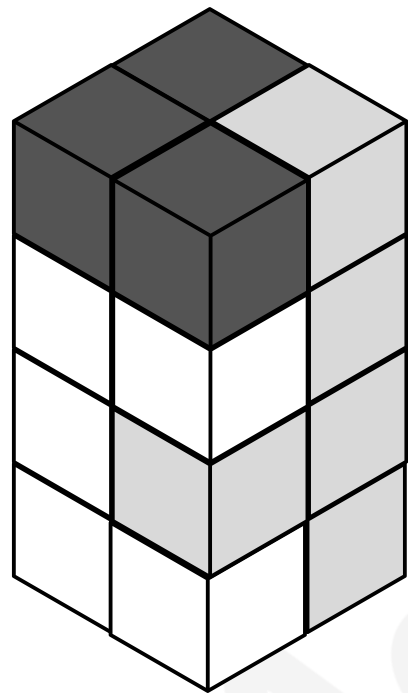
D.



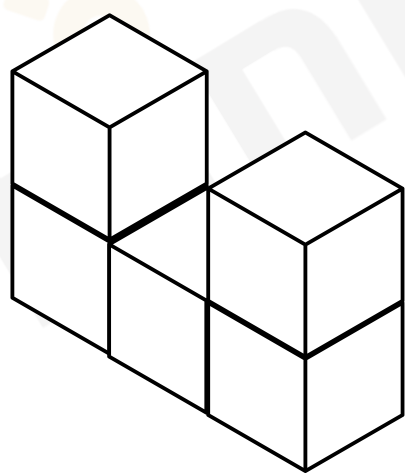
E.



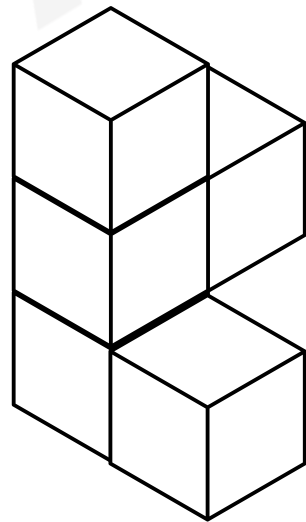
3. A rectangular prism is made of three pieces, as shown. The figures on the right show the grey and black parts. What is the shape of the white piece?



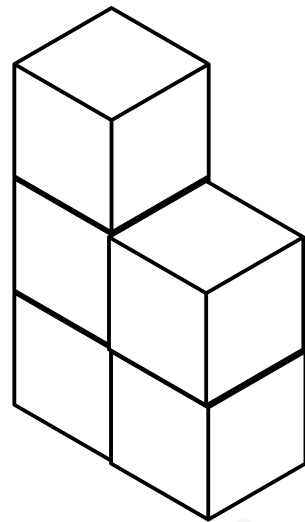
A.



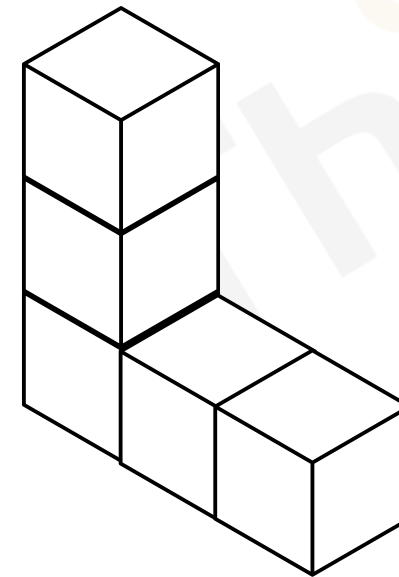
B.



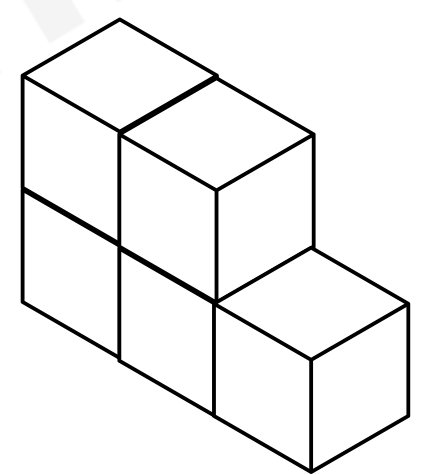
C.



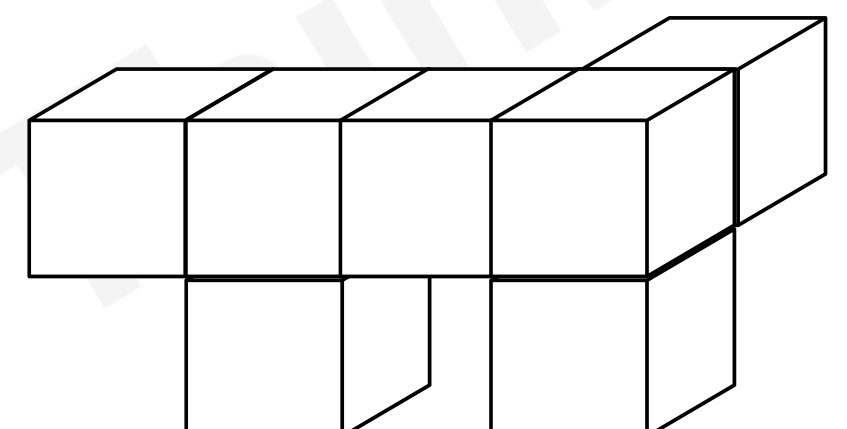
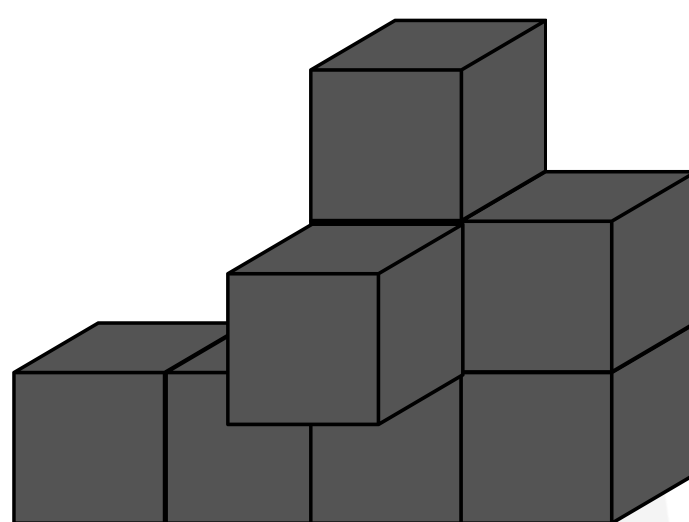
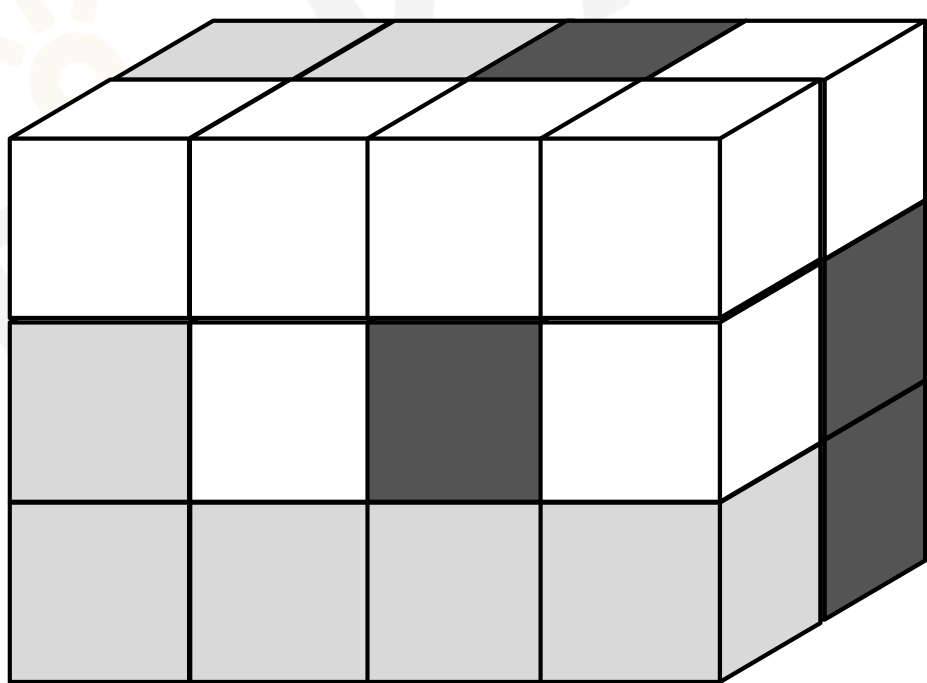
D.



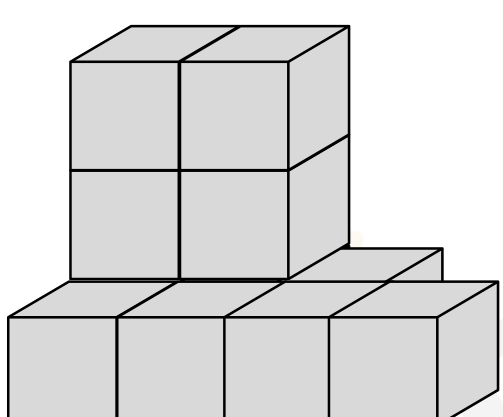
E.



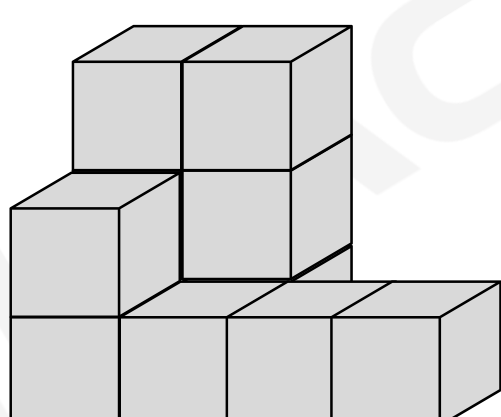
4. A rectangular prism is made of three pieces, as shown. The figures on the right show the grey and white parts. What is the shape of the grey piece?



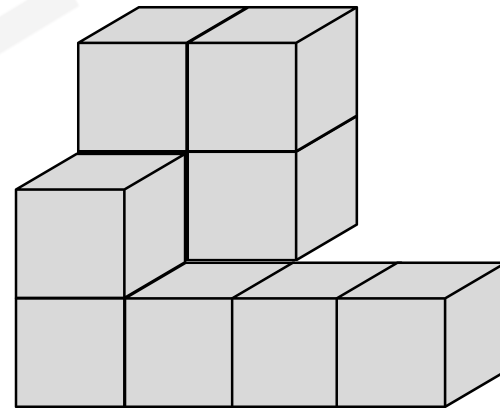
A.



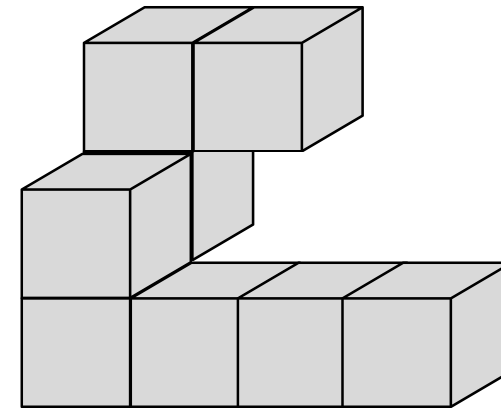
B.



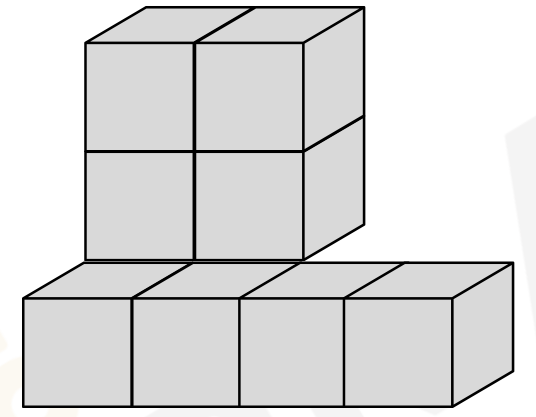
C.



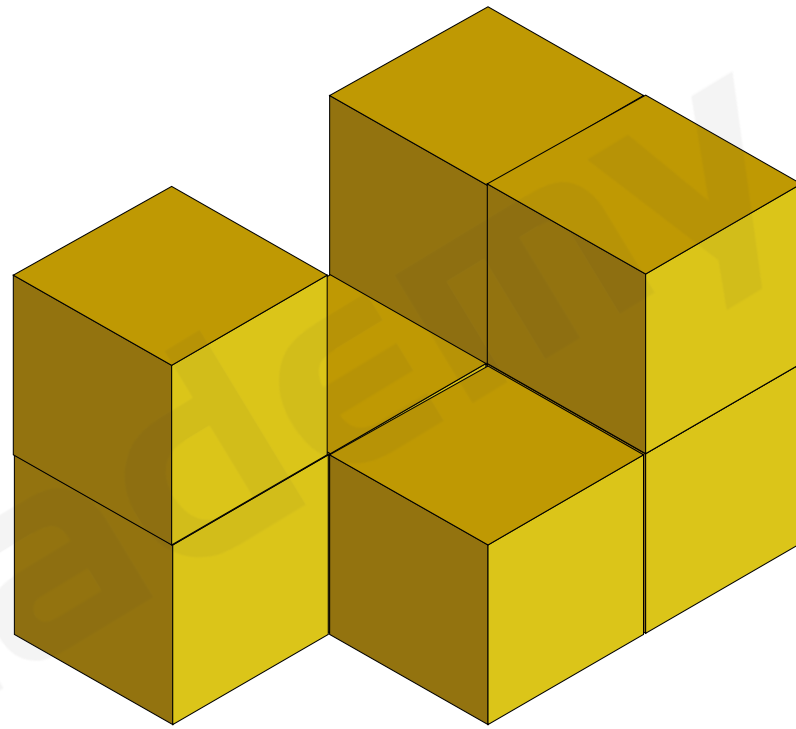
D.



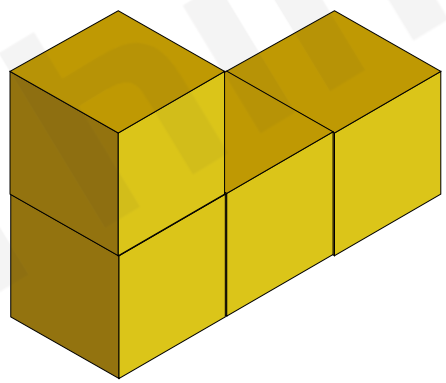
E.



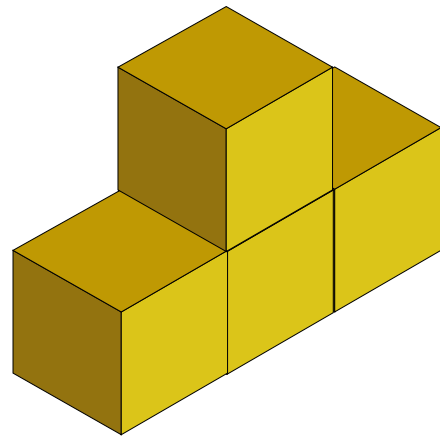
5. The block below is made by two small pieces among A, B, C, D, and E. The two small pieces are _____ and _____



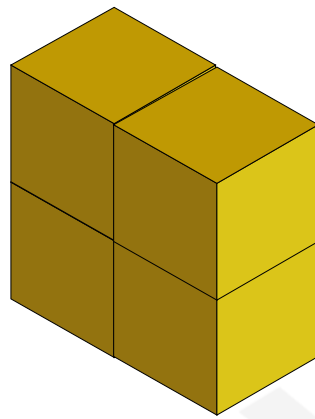
A.



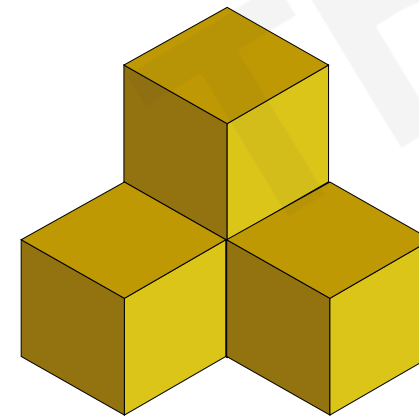
B.



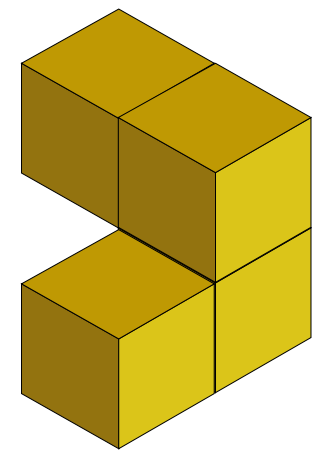
C.



D.



E.



Week Review

Day 5

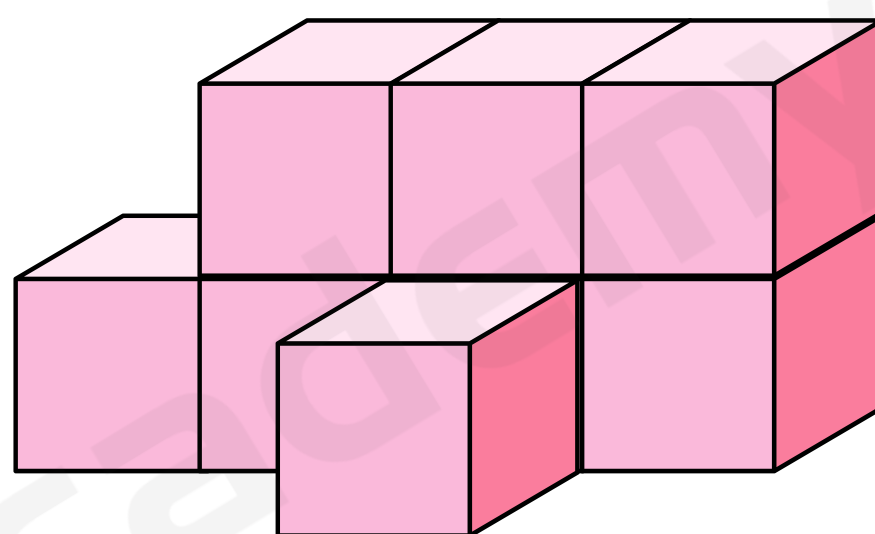
1. Timmy and Jimmy had 54 matches altogether. Timmy took as many matches as he needed to build a square with each side 5 matches long. Blaire used the remaining matches to build a rectangle, which had one side equal to 4 matches. How many matches long is each of the longer sides of this rectangle?

- A. 6 B. 8 C. 10 D. 11 E. 13

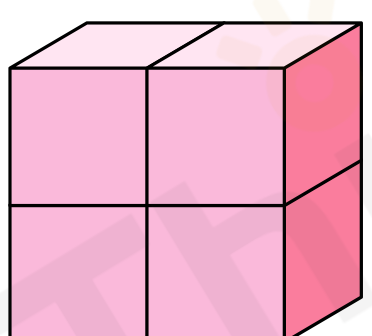
2. Grandpa has a 8 m by 21 m yard. One of the shorter sides of the yard is along the house. Grandpa decided to put a fence around the remaining three sides of the yard and to paint the fence. Painting 10 m of the fence uses 1 gallon paint. A can of one-gallon paint costs \$20. How much will Grandpa pay for the paint he needs to paint the whole fence? (When buying the paint, one has to buy the whole can and cannot buy half can)

- A. 60 B. 65 C. 55 D. 80 E. 100

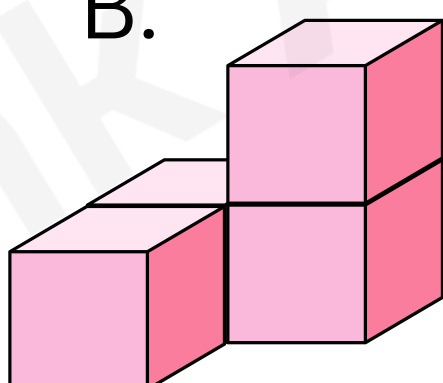
3. The block below is made by two small pieces among A, B, C, D, and E. The two small pieces are _____ and _____



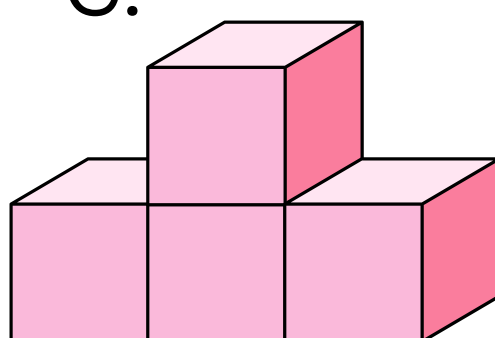
A.



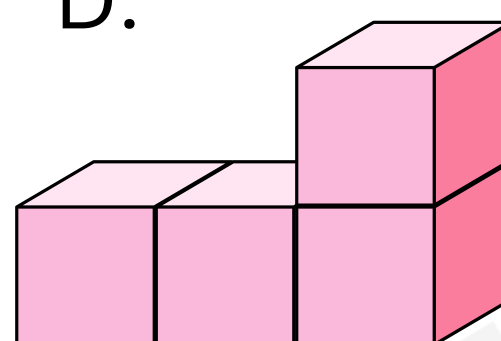
B.



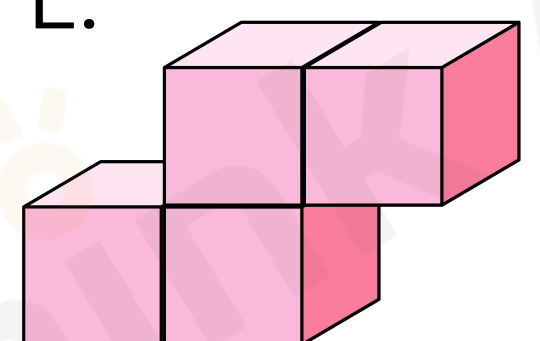
C.



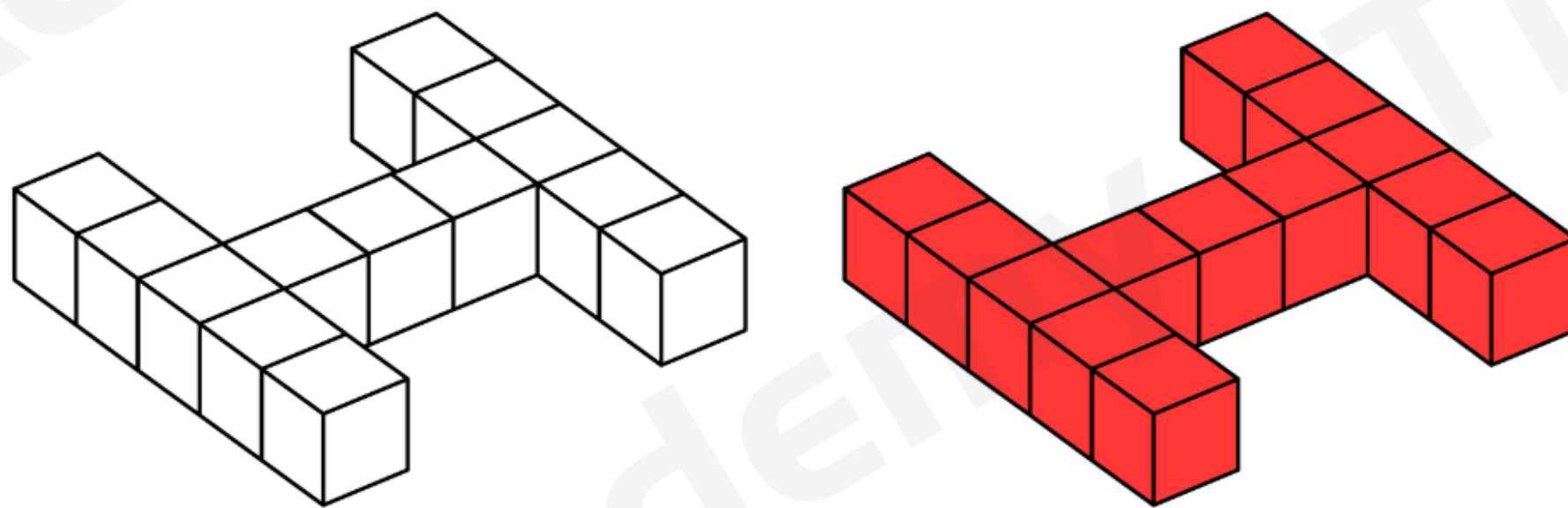
D.



E.



4. Lily glues 13 identical cubes together to form a letter H, and then paints them red as shown below.



(1) There are _____ cubes with exactly 5 faces painted.

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

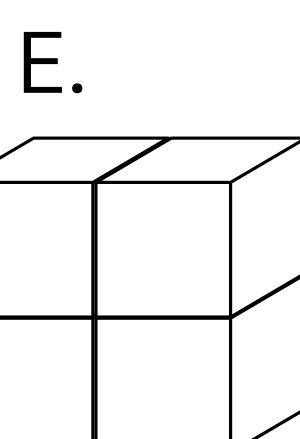
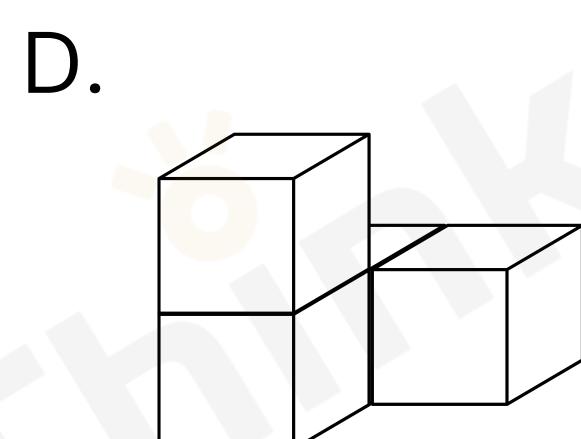
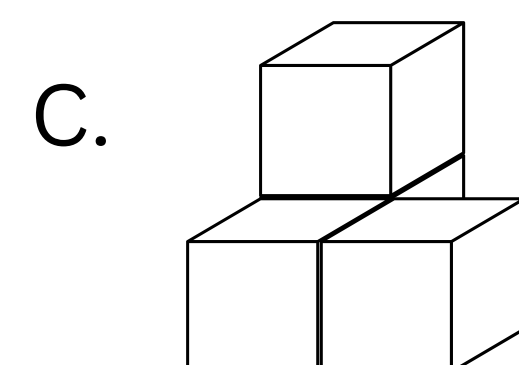
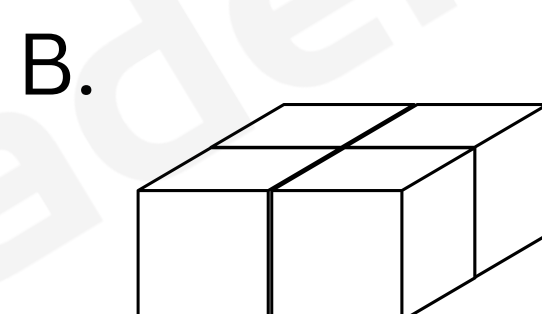
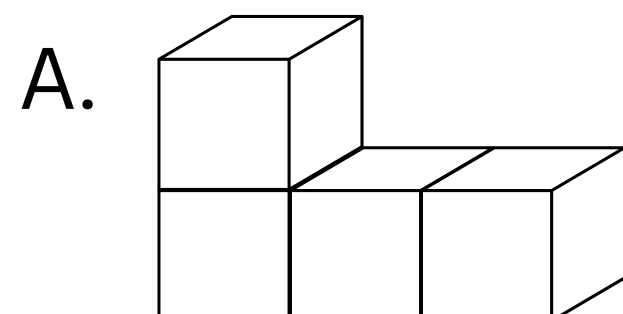
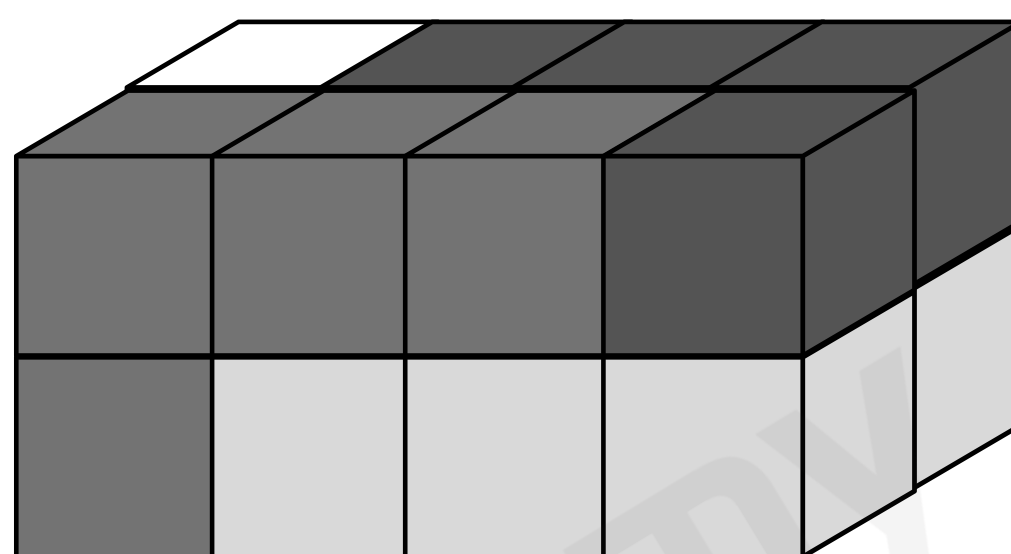
(2) There are _____ cubes with exactly 4 faces painted.

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

(3) There are _____ cubes with exactly 3 faces painted.

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

5. A rectangular prism is made of four pieces, as shown. Each piece consists of four cubes and is a single color. What is the shape of the white piece?





**CONGRATULATIONS!
YOU FINISHED WEEK 3!**

Answers

Perimeter - Day 1&2

CCDCB EBCCA

Color Cubes - Day 3

BCAED

Form Solid Figure - Day 4

BDAC[AE]

Week Review - Day 5

EE [BE] [CDA] A

MK 4-POINTERS WORKBOOK

LV3-4

Enumeration and
Number&Operation



Scan to add MK Expert



WeChat

WhatsApp

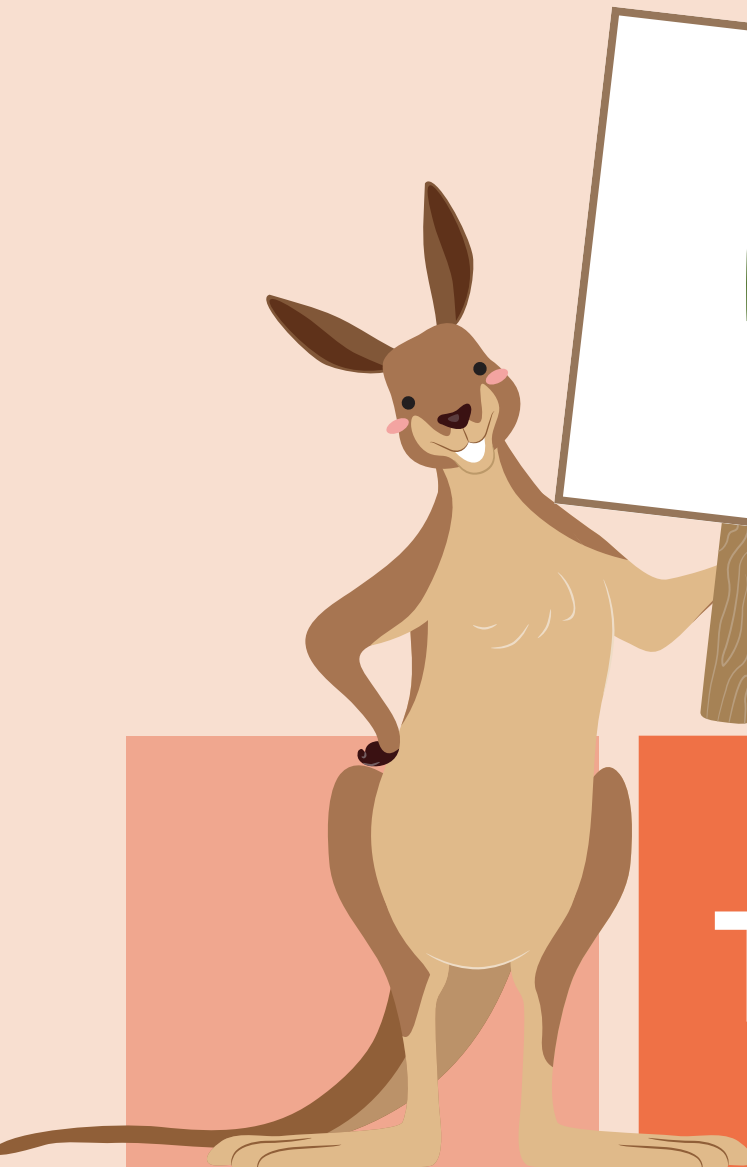


WORKBOOK GUIDELINE



In the following week, you can use this workbook to understand this module better. If you make a mistake, please review your class notes or watch the playback!

- Each week will cover one topic
- Record your time and accuracy on the tracker
- Use stickers or stamps to record your progress



Example

WEEK 0

	Time	#Wrong	Difficulty
Mon	30 min	2	★ ★ ★

Enumeration
and
Number & Operation

WEEK 4



Time

#Wrong

Difficulty



Mon

Tue

Wed

Thu

Fri

Enumeration

Day 1 & Day 2

1. Monkey, Bunny, Elephant and Tiger want to be in one photo together. Monkey and Bunny are best friends and they want to stand next to each other. Bunny does not want to stand with Tiger. In how many different ways can they pose for the photo if they all stand in one row?

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

2. Maggie has 4 dolls in a row on her shelf: one with black hair, one with blonde hair, one with brown hair and one with red hair. She wants to put the doll with black hair and the doll with brown hair next to each other. The one with red hair and the one with black hair also has to be together. In how many ways can she arrange the dolls so that this condition is fulfilled?

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

3. Laura and her two friends (George and Ellen) are lining up to take photos. Laura cannot stand in the middle. How many different ways are there for them to line up?

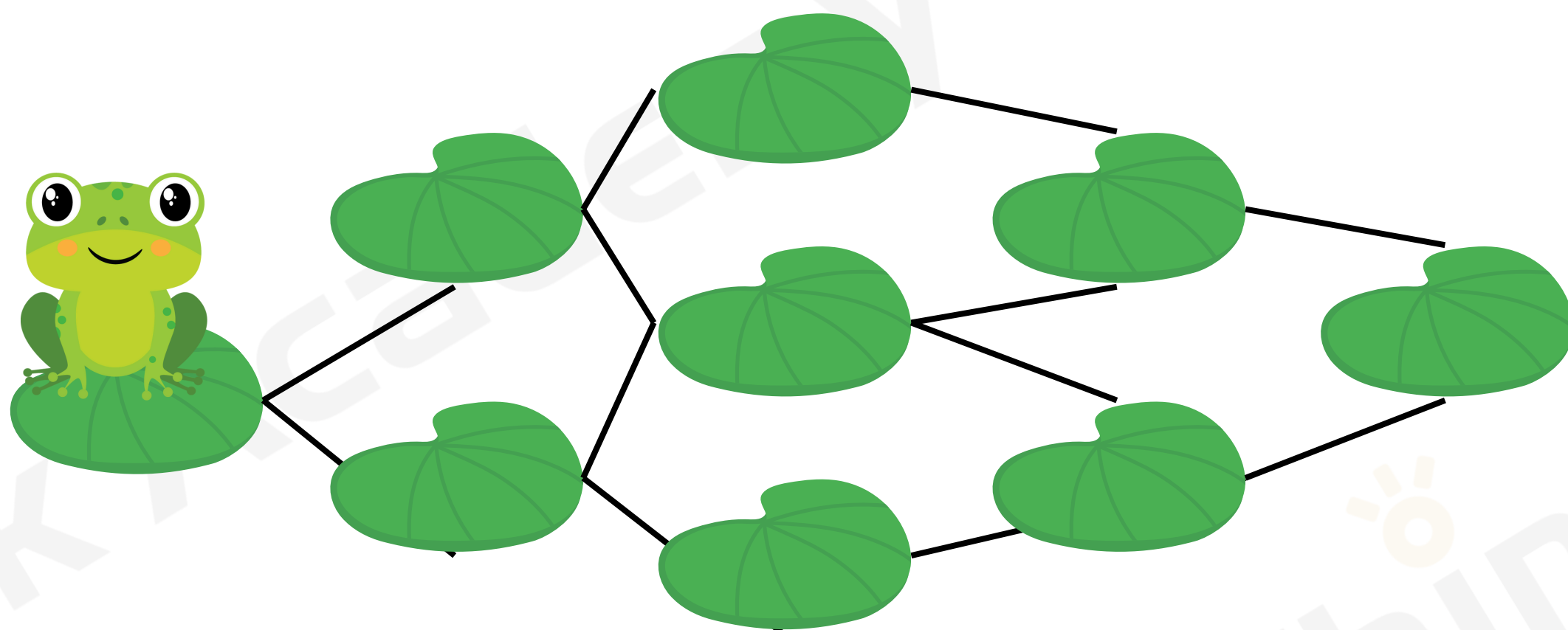


- A. 5 B. 4 C. 3 D. 2 E. 1

4. There are 4 books on Allan's shelf: a Math book, an English book, a story book, and a notebook. Allan wants to arrange them in a certain way, so that he can use them conveniently. Allan wants to put the English book next to the story book, and the Math book together with the notebook. How many ways are there for him to arrange his books on the shelf, if all the books are in a row?

- A. 5 B. 6 C. 7 D. 8 E. 9

5. The frog wants to cross the pond on lotus leaves. He can only land on the leaves with a path in between. How many different paths can the frog take without passing through the same leaf more than once?



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

Take a rest!

6. Joana, Athena and Diana are good friends. For the incoming Thanksgiving, each of them wants to send one postcard to each other. How many postcards do they need in total?

- A. 5 B. 6 C. 7 D. 8 E. 9

7. It is Christmas season, Aaron, Dylan, Kevin and Aidan are good friends. They want to exchange one gift with each other. The gifts given by others cannot be exchanged. How many gifts are exchanged?

- A. 4 B. 5 C. 6 D. 10 E. 12

8. During the weekends, the rabbit, the giraffe and the deer in Think forest visit each others' houses. If they only pay one visit each weekend (e.g. rabbit visiting giraffe OR giraffe visiting rabbit), then how many weeks it will take them to finish all the combinations of visiting each other?

- A. 2 B. 4 C. 5 D. 6 E. 12

9. Johnny, Mark, Lia and Yuna are in the same class. They sit in the same row, and they want to exchange and check each others' homework to make sure they get the correct answers. Each of them only exchange with each of them once (e.g. Johnny and Mark only exchange the homework once). How many times in total do they need to exchange their homework?

- A. 4 B. 5 C. 6 D. 10 E. 12

10. Joy colors each region on the pattern either red, blue or yellow. She colors regions that touch each other with different colors. She colors the top region of the volleyball red. How many regions does Joy color red?



A. 8

B. 6

C. 4

D. 3

E. 2

Maximum & Minimum

Day 3

1. A farmer who raises chickens has boxes which hold 6 eggs each and boxes which hold 12 eggs each. What is the least number of boxes he needs to store 88 eggs?

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

2. Balloons are sold in packets of 5, 10, and 25. Marcus buys exactly 85 balloons. What is the smallest number of packets he can buy?

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

3. A candy shop owner has boxes which hold 4 pieces of chocolates each and boxes which hold 12 chocolates each. One day, a customer buys 75 pieces of chocolate. How many boxes at least does he need to use to sell those pieces of chocolate?

- A. 9 B. 8 C. 7 D. 6 E. 5

4. pencils are sold in packets of 10, 20, and 25. Teacher Maria wants to buy 95 pencils for her class. How many packets at least does she need to buy?

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

5. Bobby gets some coins and he wants to buy an eraser as shown below. How many coins are needed at least with no change? (The number of each coin is unlimited.)



Penny
1 cent
1 ¢



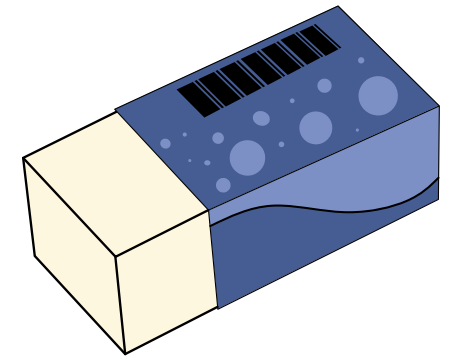
Nickel
5 cents
5 ¢



Dime
10 cents
10 ¢



Quarter
25 cents
25 ¢



\$ 1.22

A. 4

B. 5

C. 6

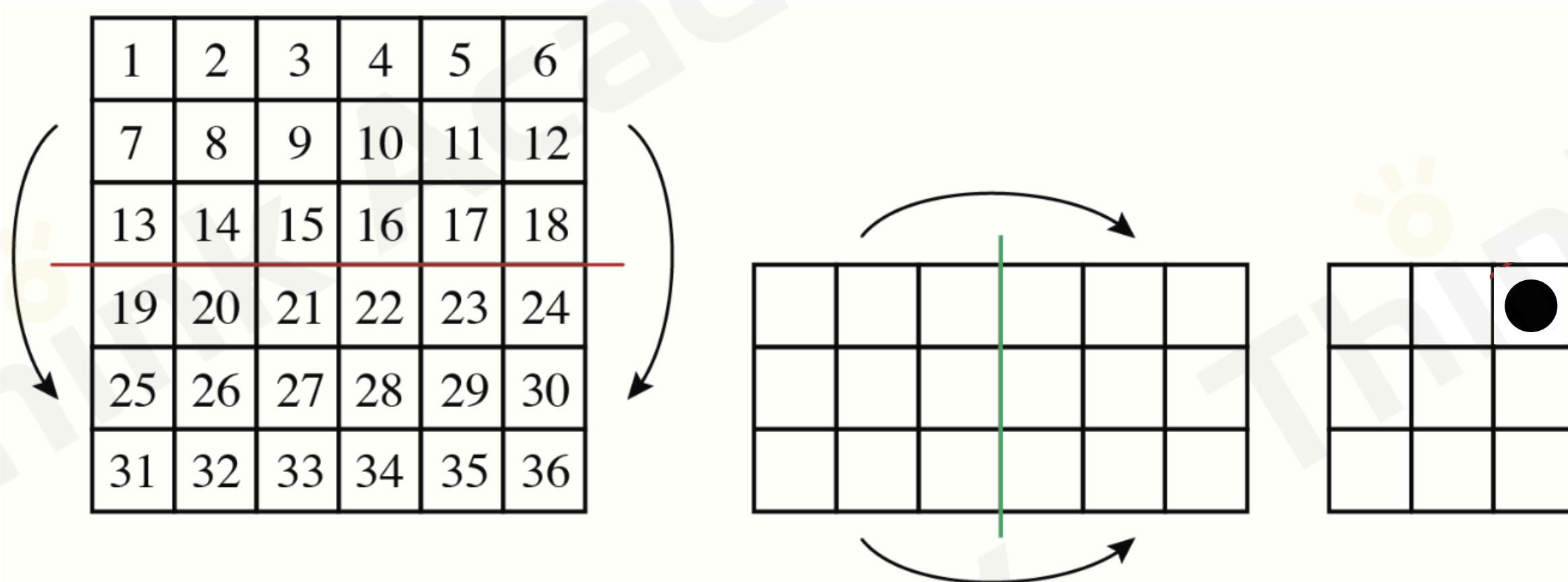
D. 7

E. 8

Shapes

Day 4

1. Billie folds the number square twice as shown. Then she punches a hole through the black spot shown by the arrow. Which numbers does she punch through?



A. 13, 14, 15, 16

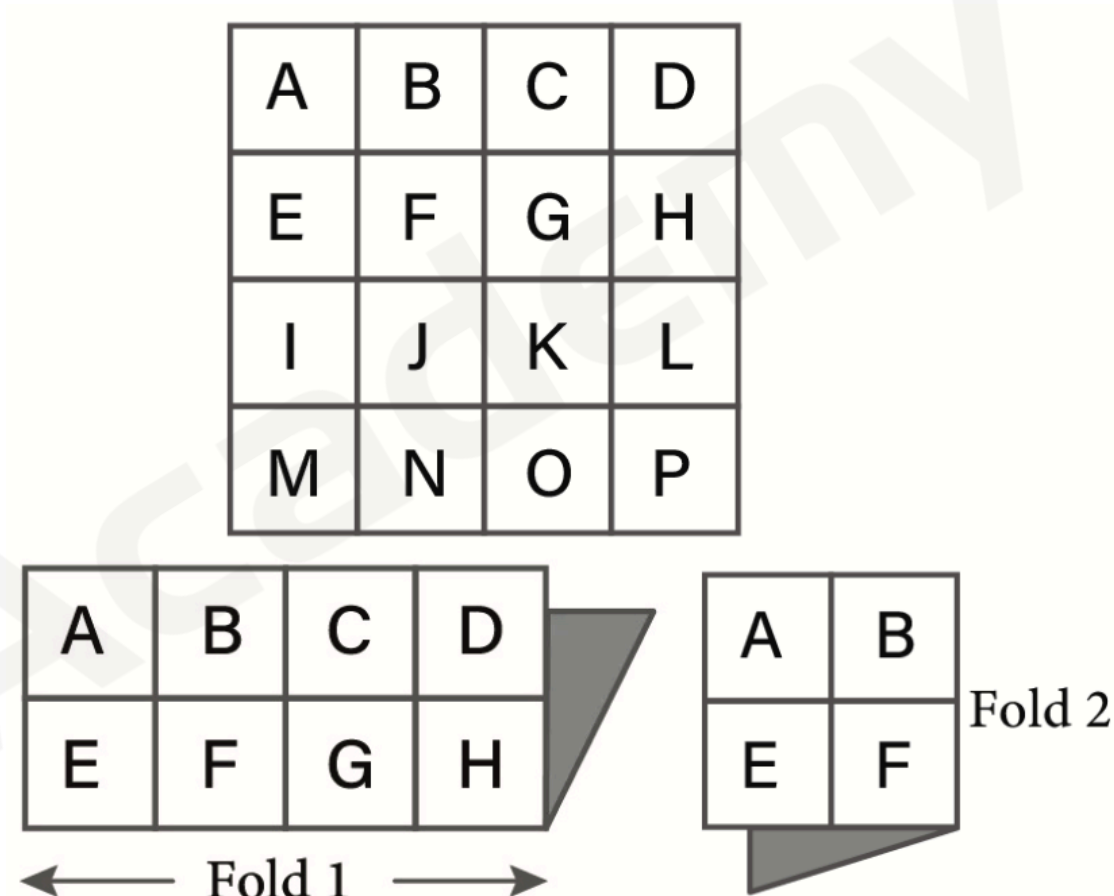
B. 15, 18, 21, 24

C. 13, 16, 19, 22

D. 1, 6, 31, 36

E. 13, 18, 19, 24

2. A piece of paper with letters written on it is folded in half so that the letters A, B, C, D, E, F, G, and H are on the top. After the paper is folded once, the letter M is under the letter A. After the paper is folded twice, which letters are under the letter B?



A. C, J, K

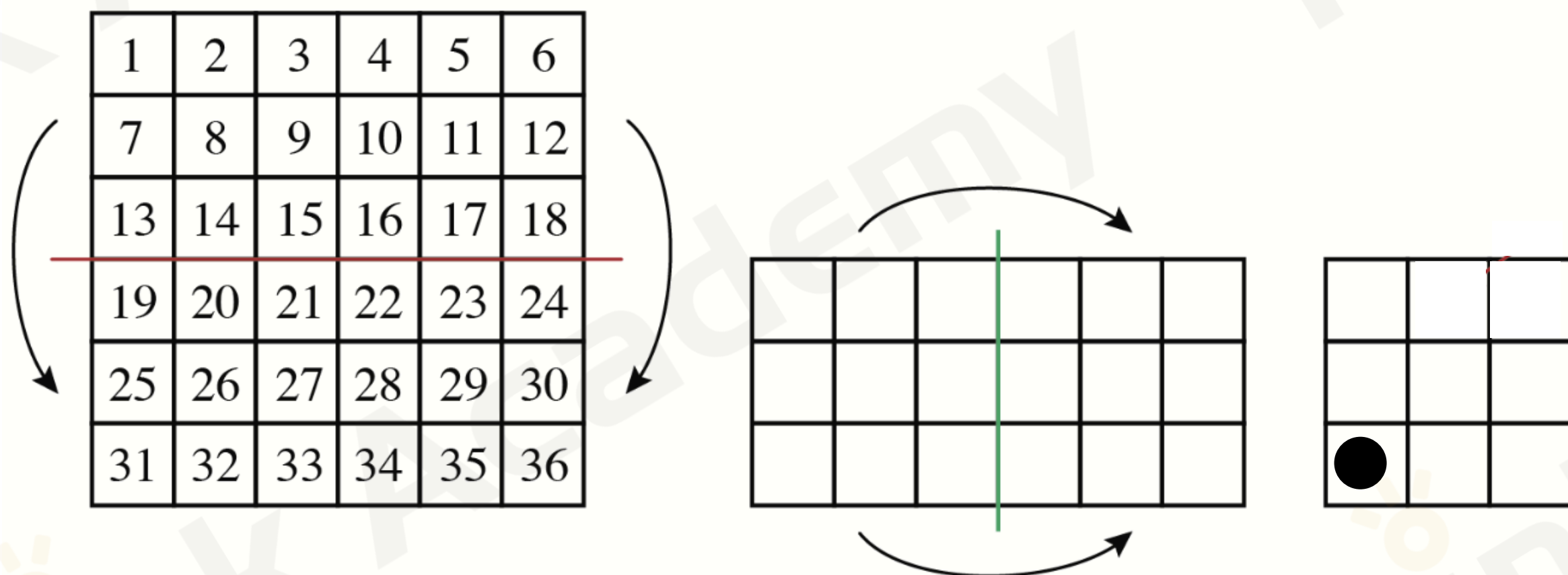
B. D, J, L

C. D, N, P

D. C, N, O

E. D, M, O

3. Rayna folds the number square twice as shown. Then she punches a hole through the black spot shown by the arrow. Which numbers does she punch through?



A. 3, 4, 33, 34

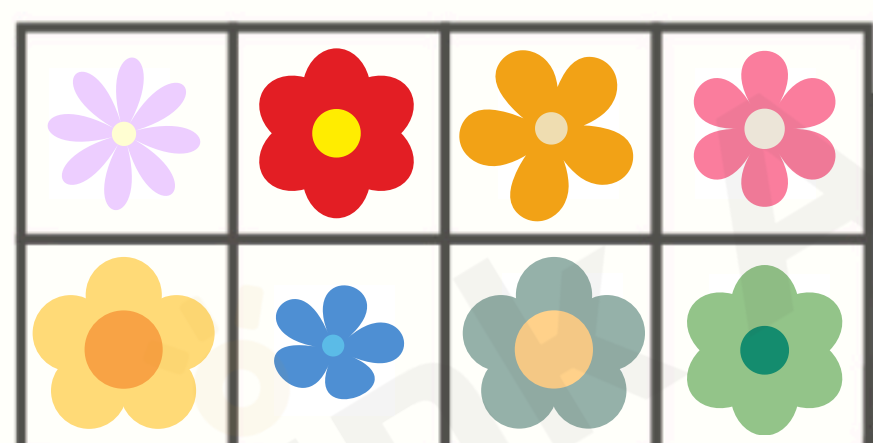
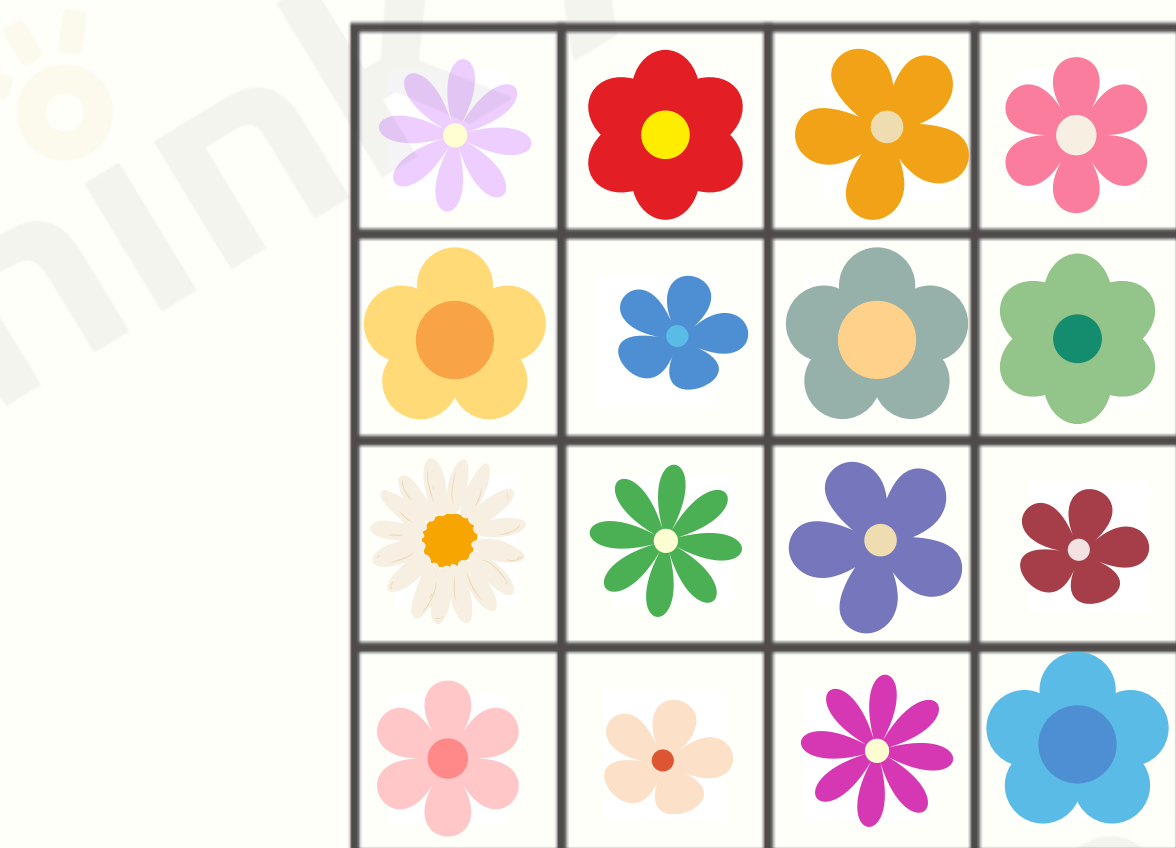
B. 3, 6, 21, 24

C. 3, 4, 21, 22

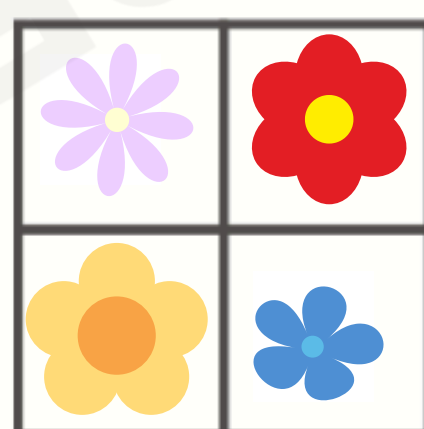
D. 1, 4, 19, 22

E. 3, 4, 21, 22

4. A piece of paper with flowers printed on it is folded in half so that the flowers are on the top. After the paper is folded once, the  is under the . After the paper is folded twice, which letters are under the  ?

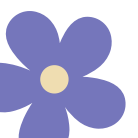


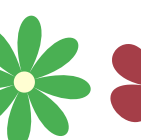
Fold 1

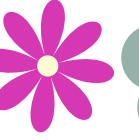


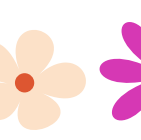
Fold 2

A.   

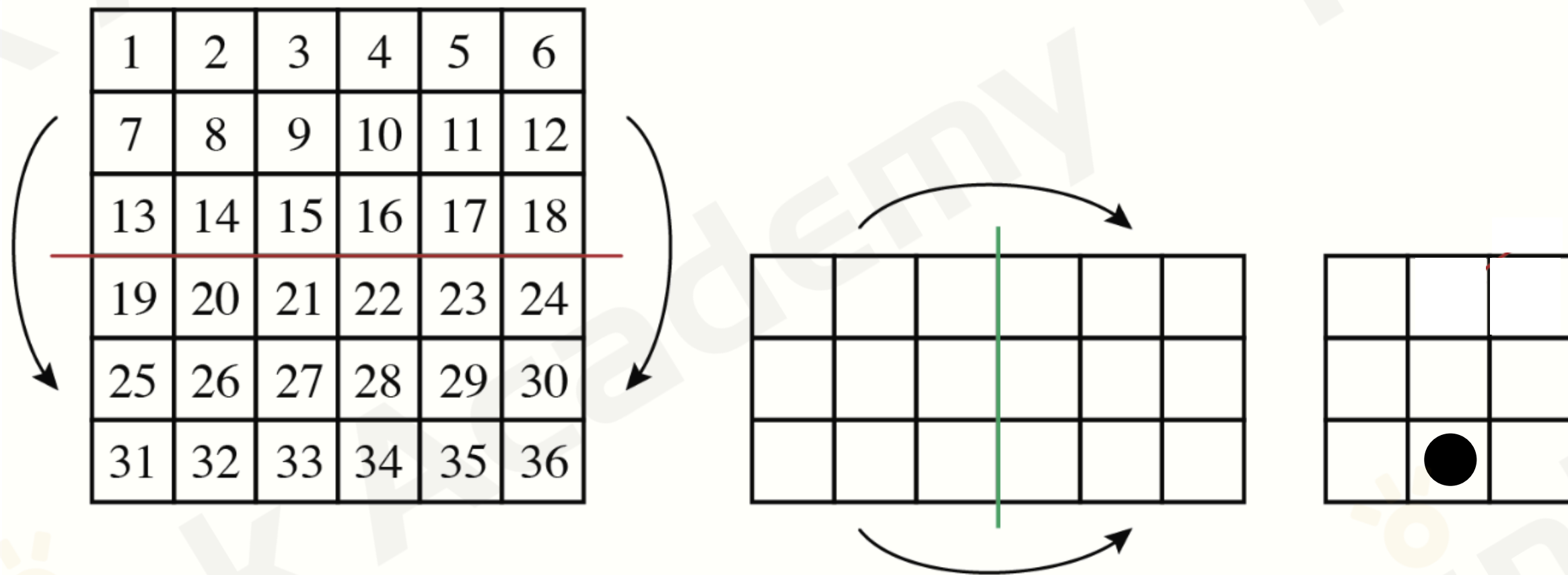
B.   

C.   

D.   

E.   

5. Jay folds the number square twice as shown. Then he punches a hole through the black spot shown by the arrow. Which numbers does he punch through?



A. 14, 17, 32, 35

B. 2, 5, 20, 23

C. 2, 5, 32, 35

D. 20, 23, 32, 35

E. 14, 17, 26, 29

Week Review

Day 5

1. Gina and her two friends (Alice and Joe) are lining up to take photos. Gina stands either on the left most or on the right most. How many different ways are there for them to line up?



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

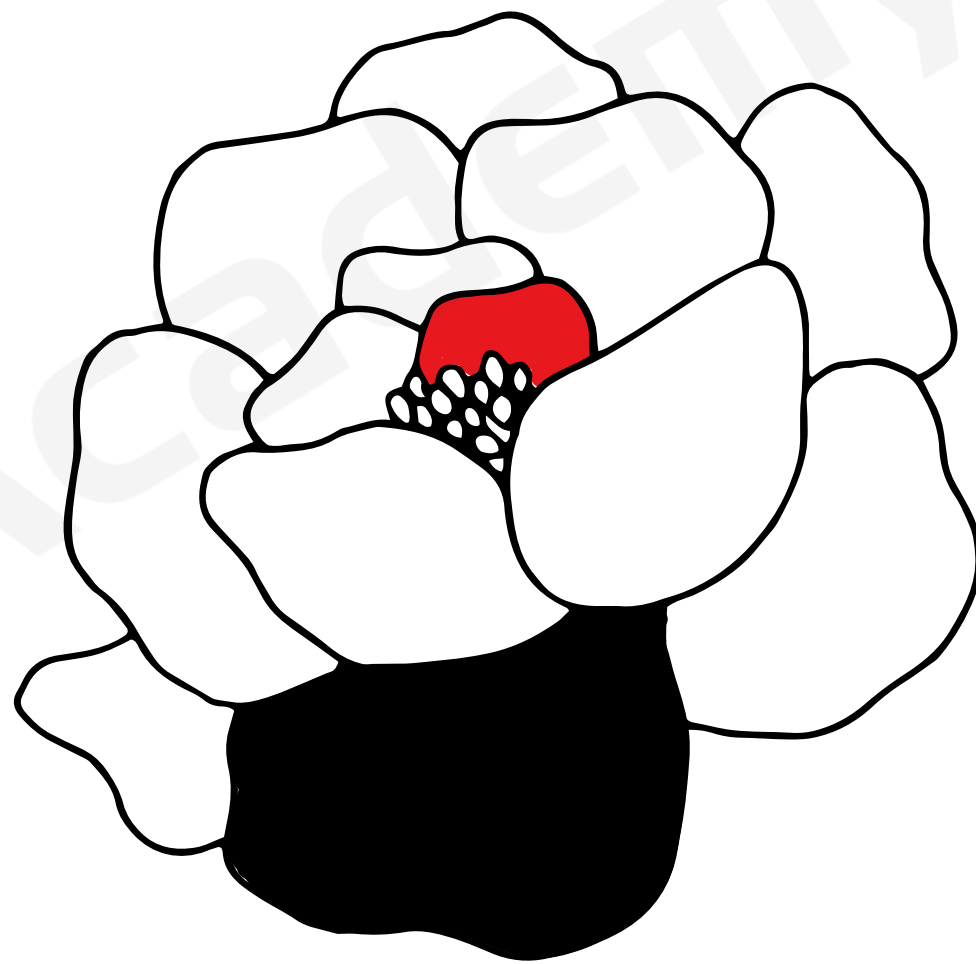
2. In Lucy's family, there are 3 kids and the parents. It is Christmas season, so the family is going to exchange gifts. Among the siblings, each of them will exchange one gift with each other. The gifts given by others cannot be exchanged. Each of the parents gives each kid one gift, but the kids don't need to prepare gifts for the parents. How many gifts are prepared?

- A. 4 B. 5 C. 6 D. 8 E. 12

3. Sushis are sold in packets of 3, 8, and 15. Faye wants to buy 53 sushis. What is the smallest number of packets she can buy?

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

4. The black pedal is withered, so is already colored black. Joy colors each of the rest pedals on the flower either red, blue or yellow. She colors regions that touch each other with different colors. She colors the middle region of the flower red. How many regions does Joy color red?



- A. 8 B. 6 C. 4 D. 3 E. 2

5. Max gets some coins and he wants to buy a pencil as shown below. How many coins are needed at least with no change? (The number of each coin is unlimited.)



Penny
1 cent
1 ¢



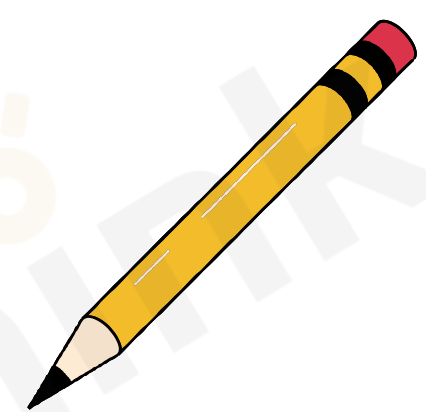
Nickel
5 cents
5 ¢



Dime
10 cents
10 ¢



Quarter
25 cents
25 ¢



\$ 1.16

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



**CONGRATULATIONS!
YOU FINISHED WEEK 4!**

Answers

Enumeration - Day 1&2

ACBDC BEDCD

Max & Min - Day 3

BCCAE

Shapes - Day 4

EDABC

Week Review - Day 5

BEBCD