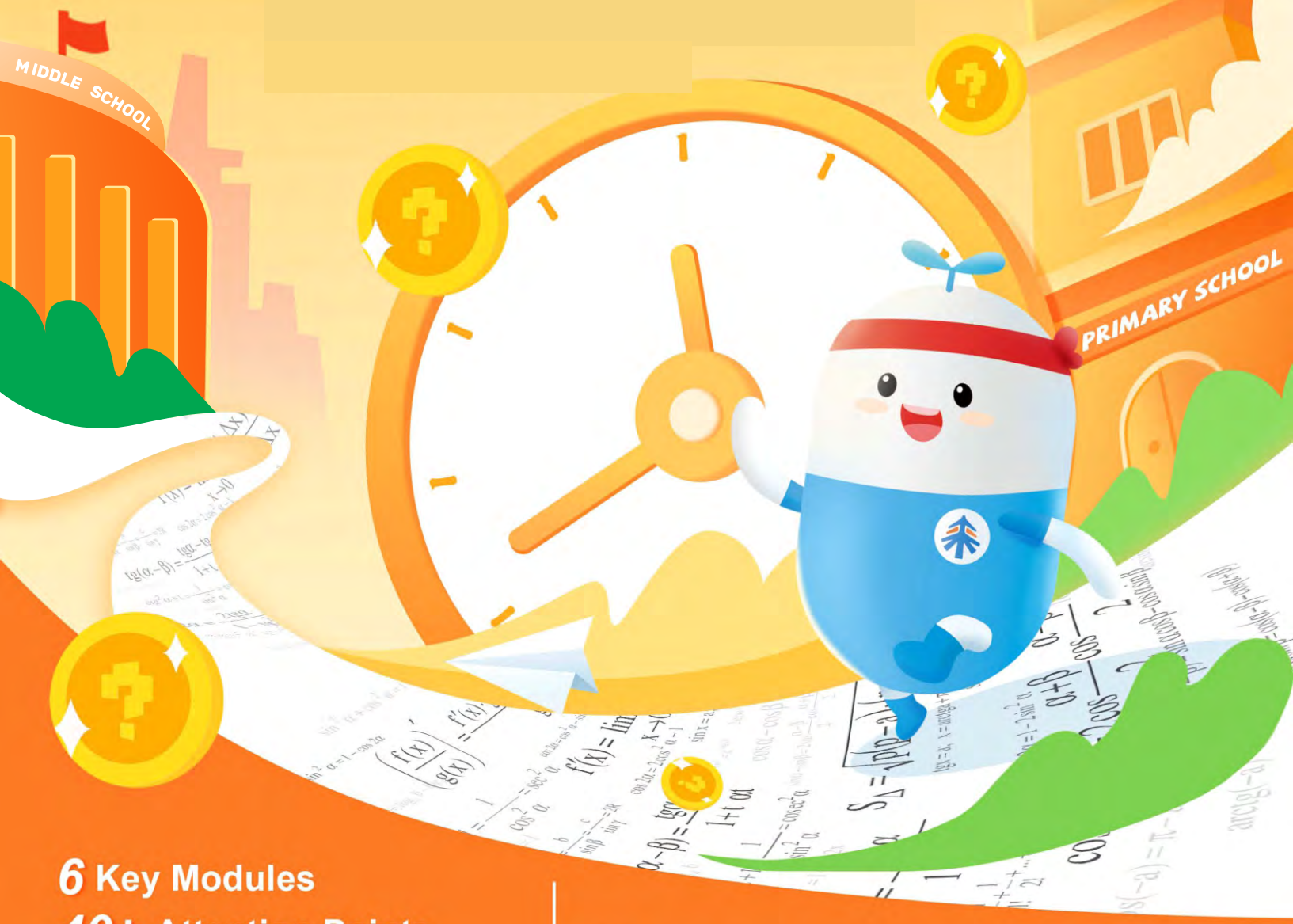
Think Academy

MATH-PEDIA

TO MIDDLE SCHOOL



6 Key Modules

40+ Attention Points

50+ Knowledge summaries

500+ Practices

- ☑ Contains everything you need to prepare middle shcool math.
- ☑ Complete review of elementary school math.

Think Academy US ONLINE

Middle School Math Program

Think Academy’s Middle School Long-Term Math Program is designed for Grades 6–9, offering a professional, systematic, and comprehensive year-round curriculum tailored to North American students. The program includes four tracks: Core+, Honors, Challenge, and Competition.

Core+（School Curriculum Track）： Focuses on previewing and reinforcing key concepts through targeted practice, helping students easily achieve A grades in school math at their current grade level.

Honors（Accelerated Advancement Track）： One year ahead of standard pace, matching the fastest public-school classes. It deepens understanding and aims for placement in advanced tracks, completion of 5 AP STEM courses before graduation, and perfect SAT/ACT Math scores.

Challenge： Two years ahead of standard pace, covering Algebra 1, Geometry, and Algebra 2 in two years. Align with top private schools, preparing students to complete 8 AP STEM courses and get perfect SAT/ACT Math results by graduation.

Competition： Design around the AMC syllabus, build competitive math skills through advanced, contest-level topics. Taught by an experienced coaching team with a proven record of training AMC and AIME winners, it helps students qualify for AIME by Grades 8–9.

	Year 1			Year 2			Year 3			Year 4			Year 5		
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring
Core+	Math 6/7a			Math 7b/8			Algebra 1			Geometry			Algebra 2		
Honors	Pre-Algebra			Algebra 1			Geometry			Algebra 2/ Trigonometry			Pre-Calculus		
Challenge	Pre-Algebra+			Algebra 1		Intro to Geo	Geometry		Algebra 2	Trig	Pre-Calculus		AP Calculus		
Competition				AMC 8 HR		AMC 10 Introduction			AMC 10 AIME qualify			AMC 12+ AIME			

Think Academy US ONLINE
Middle School Competition Track Student Results

2022-2024 AMC8 Number of Students Awarded:

456
Achievement Roll
(Lower Grade Achievement Award)

397
Honor Roll
(National Top 5%)

134
DHR
(National Top 1%)

2022-2024 AMC10 Number of Students Awarded:

304
AIME Qualification
(National Top 7%)

187
Honor Roll
(National Top 5%)

45
DHR
(National Top 1%)

2024 Think Global IMO Award Winner

7金 1银

金牌总数居全球第一

International Mathematical Olympiad
Foundation Bronze Sponsor

Think Academy is an official partner of the International Mathematical Olympiad (IMO)

Why Think Academy Competition Courses Trained Thousands of Award-Winning Students?

1 One-Stop Professional System for Math Competitions

Think Competition follows the AMC syllabus and aligns with students' learning pace. **Grades 5–6 focus on AMC 8**, while **Grades 7–8 focus on AMC 10**. The curriculum covers the four core modules of math competitions — Algebra, Geometry, Number Theory, and Counting & Probability — enabling students to achieve one competition milestone each year and **complete AMC 10 preparation before high school, successfully qualifying for AIME**.

2 Expert Coaches. Top Results. Proven Success.

Think Competition courses are taught by **instructors with many years of competition teaching experience**, enabling students to master complex contest concepts efficiently and with ease.

James
Upenn - 5 YOE

Dennis
Duke - 4 YOE

Yichen
Columbia - 4 YOE

3 Collaborate and Excel with Outstanding Peers

Each year, the Competition Track begins with an entrance assessment to ensure students learn alongside peers of similar ability. This structure makes preparation more engaging and collaborative, as students motivate one another and grow together throughout the journey.

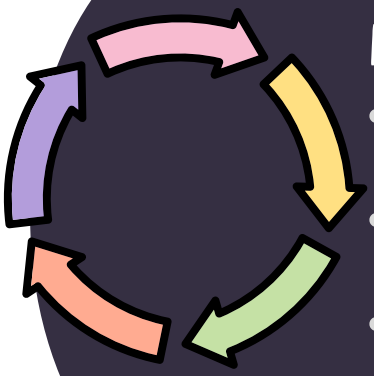
Think Academy US Online

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**

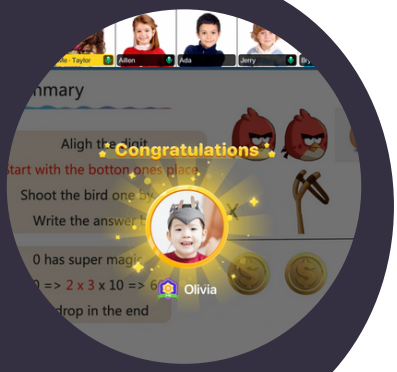
Think Academy US Online

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

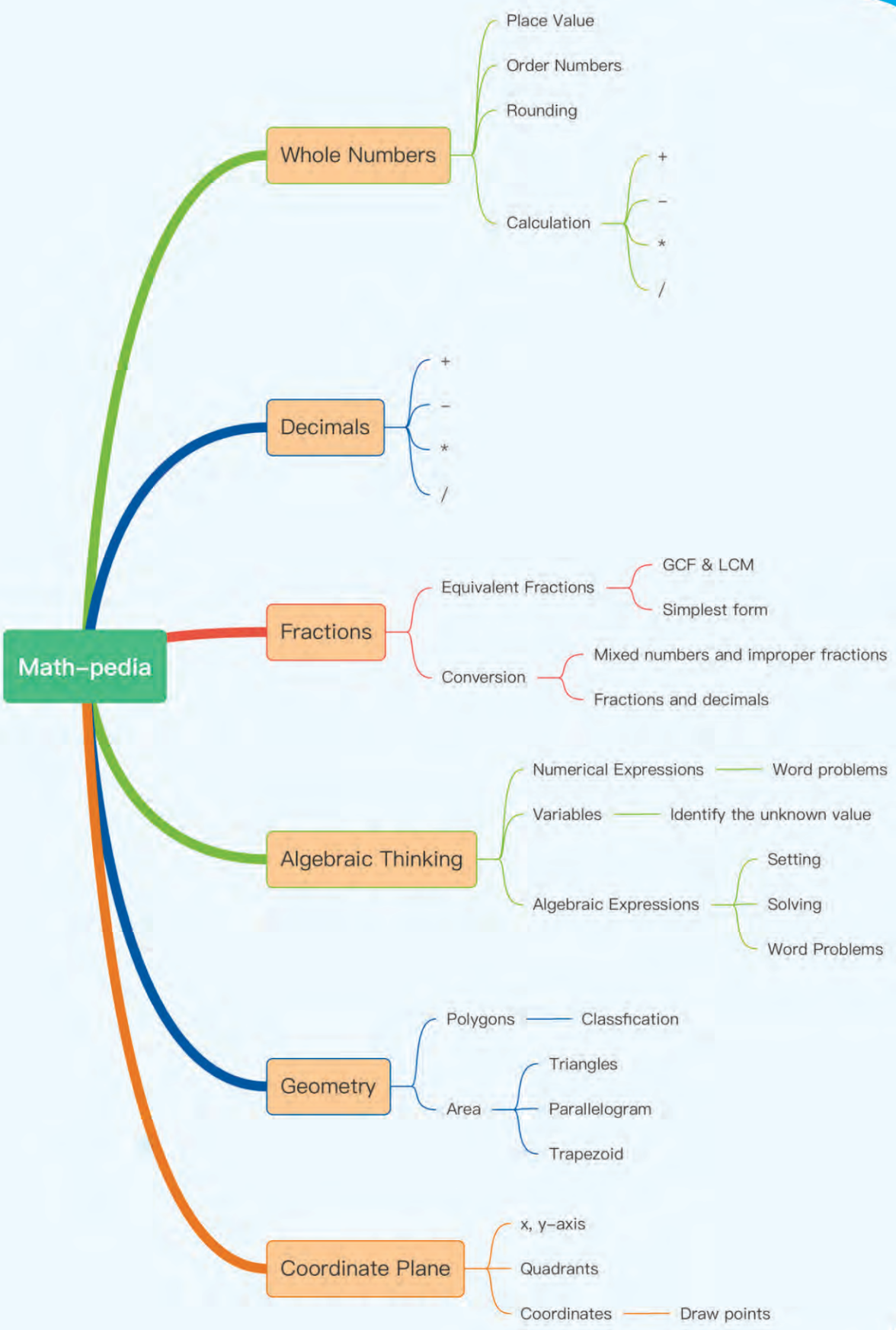


Self-Developed Learning App Enhances Every Online Class

- **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**


Math-pedia
Whole Numbers
Place Value
Order Numbers
Rounding
Calculation
+
-
*
/
Decimals
+
-
*
/
Fractions
Equivalent Fractions
GCF & LCM
Simplest form
Conversion
Mixed numbers and improper fractions
Fractions and decimals
Algebraic Thinking
Numerical Expressions
Word problems
Variables
Identify the unknown value
Algebraic Expressions
Setting
Solving
Word Problems
Geometry
Polygons
Classfication
Area
Triangles
Parallelogram
Trapezoid
Coordinate Plane
x, y-axis
Quadrants
Coordinates
Draw points

TASK 1

Place Value

Thousands	Hundreds	Tens	Ones		Tenths	Hundredths	Thousandths
8	2	4	6	.	7	3	9

The 4 can be named:
4 tens, or **40**

The 7 can be named:
7 tenths, **7/10**, or **0.7**

Be careful of the **decimal points**

Standard Form: 8286.739

Expanded Form: =8000+200+80+6+0.7+0.03+0.009

Name the place of the underline digit. (5 coins each)

2,62<u>4</u>,998 ____4____ is in the <u>thousand</u> place

4,<u>2</u>44,365 _____ is in the _____ place

52<u>3</u>,349 _____ is in the _____ place

51,632.<u>4</u>1 _____ is in the _____ place

72,981.10<u>3</u> _____ is in the _____ place

Write each number in standard form. (5 coins each)

4000 + 300 +20 4320

2000 + 100 +24 _____

3000 + 50 +0.1 _____

800+70+0.1+0.041 _____

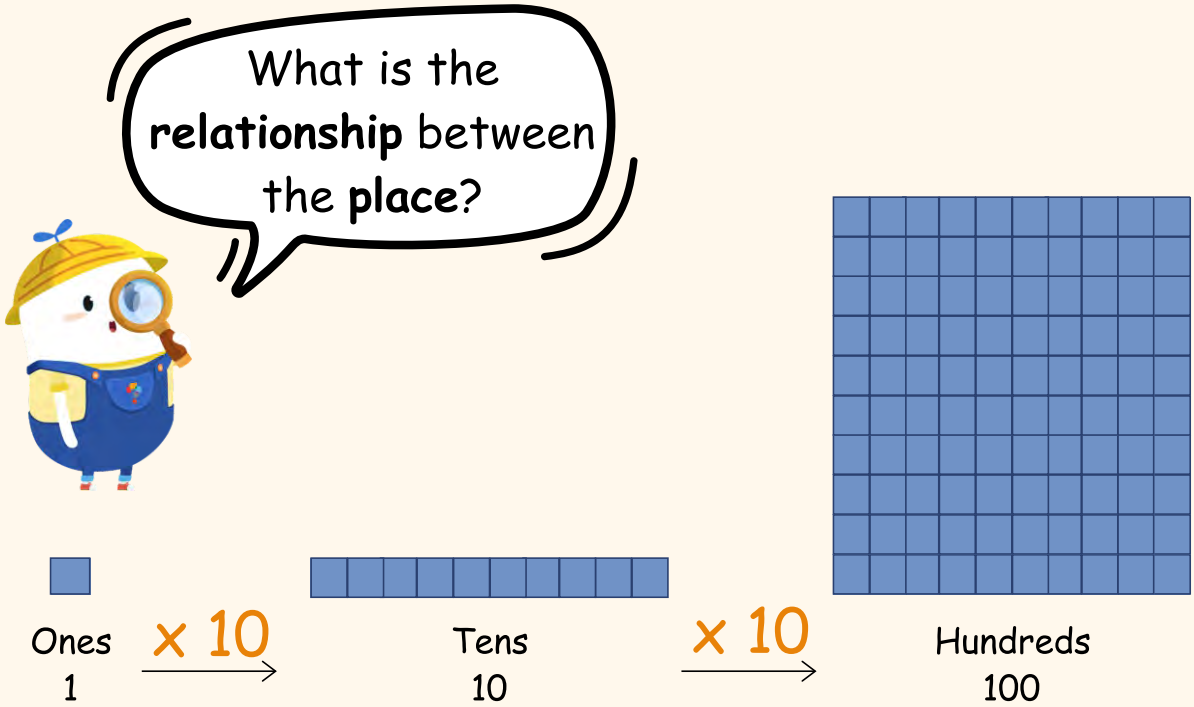
Write each number in expanded form. (5 coins each)

4271 4000+200+70+1

8060 _____

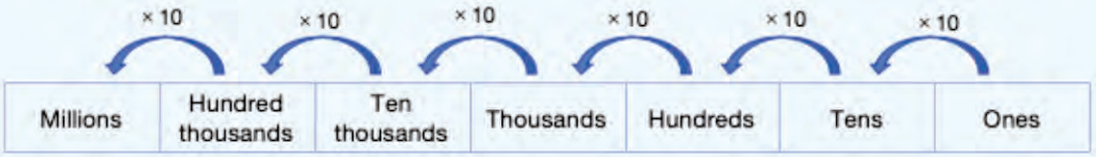
6720.03 _____

90320.78 _____



Place Value Pattern

Each place is 10 times as much as the place to its right.



200 is **10** times as much as 20,
2000 is **10 X 10** times as much as 20

30.1 is **10** times as much as 3.01,
300.1 is **10 X 10** times as much as 3.01

Multiply by the power of ten to find the product. (5 coins each)

423,123 X 100= 42,312,300

321,110 X 10= _____

31.323 X 100= _____

76.124 X 1000= _____

25.272 X 10000= _____

23,234.110 X 100= _____

Notice the **power** of tens: the tens represents the place we need to move.

Attention!

Step 1: decide the # of place the decimal point move

50,000 is 10 times as much as _____

✗ 50,000.0 Thus, 50,000 is 10 times as much as 500,000

Step 2: move the decimal point

✓ 50,000.0 Thus, 50,000 is 10 times as much as 5,000

Move the decimal point 1 place to the left

Pay attention to the **direction** of the decimal point movement.

Summary

20.0 200. 3.01 30.1

Move the decimal point **one place** to the **right** to **increase** the number by **10 times**

200. 20.0 30.1 3.01

Move the decimal point **one place** to the **left** to **decrease** the number by **10 times**

Use the place value pattern to fill in the missing number. (5 coins each)

Solution:

89,000 is 10 times as much as 8,900

Step 1: decide the # of place the decimal point move

89,000.0 ⟶ 8,900.00

Step 2: move the decimal point to the right to reduce

2005 is 100 times as much as _____

6.01 is 10 times as much as _____

_____ is 100 times as much as 3.41

_____ is 1000 times as much as 4.717

4.1001 is _____ as much as 410.01

73,600 is _____ as much as 763

9,100.24 is_____ as much as 910.024

Move the decimal to decide the number

to the right ⟶ enlarge

to the left ⟶ reduce

TASK 2
Distributive Property

Distributive property states that multiplying the sum of two or more numbers is the same as **multiplying the numbers separately**.

Addition $a(b + c) = ab + ac$

Subtraction $a(b - c) = ab - ac$

Example

6 X 14

= 6 X (10 + 4)

= (6 X 10) + (6 X 4)

= 60 + 24

= 84

6 X 19

= 6 X (20 - 1)

= (6 X 20) - (6 X 1)

= 120 - 6

= 114

Use the distributive property to multiply. Follow the example.
(5 coins each)

15 X 27 = _____

9 X 32 = _____

14 X 36 = _____

11 X 47 = _____

8 X 39 = _____

18 X 23 = _____

15 X 11 = _____

26 X 14 = _____

20 X 19 = _____

12 X 28 = _____

Attention!

32 X 12 = 384

32 X 12	32 X 12
= 32 X (10 + 2)	= 32 X (10 + 2)
= (32 + 10) X (32 + 2)	= (32 X 10) + (32 X 2)
= 42 X 34	= 320 + 64
= 1428	= 384

The confusion of symbol

Notice the **sign**, the wrong way cannot simplify the calculation.

If you fall into the trap, enhance by the follow extra practices.

32 X 12 = _____

49 X 91 = _____

57 X 51 = _____

26 X 29 = _____

Multi-Digit Multiplication

Multiply from right to left.

Carrying over from 2x5+1=11
Carrying over from 3x5+2=17
Carrying over from 5x5=25

```
 1  1  2
   2  3  5
         5
 ---------
 1 1   7 5
```

Calculate. (5 coins each)

57 X 9 = _____

85 X 7 = _____

21 X 3 = _____

42 X 8 = _____

37 X 5 = _____

4 X 69 = _____

Attention!

235 X 5 = 1175

```
1 (1 2)
  2 3 5
      5
  -----
  1 0 7 5
```

Carrying over numbers

```
1 1 2
  2 3 5
      5
  -----
 1 1  7 5
```

If you fall into the trap, enhance by the follow extra practices.

46 X 3 = _____

21 X 9 = _____

71 X 5 = _____

6 X 19 = _____

Multi-Digit Multiplication

Multiply the digits of the smaller number from right to left.

$$
\begin{array}{rrrrrl}
 & & {\scriptstyle 2} & {\scriptstyle 1\,5} & {\scriptstyle 2} & \\
 & & 1 & 2 & 7 & 3 \\
\times & & & & 2 & 8 \\
\hline
1 & 0 & 1 & 8 & 4 & \leftarrow \text{multiply 1,273 by 8 ones} \\
2 & 5 & 4 & 6 & & \leftarrow \text{multiply 1,273 by 2 tens} \\
\hline
3 & 5 & 6 & 4 & 4 & \leftarrow \text{add}
\end{array}
$$

Calculate. (5 coins each)

76 X 18 = _____

95 X 26 = _____

79 X 15 = _____

123 X 13 = _____

85 X 16 = _____

47 X 24 = _____

Attention!

134 X 23 = 3082

```
   134
    23
  ----
   292
  268
  ----
  550
```

add 1 that is carride over

more to the left by 1 place

add carry-over numbers

```
   134
    23
  ----
   402
  268
  ----
  3082
```

Move to the left by 1 place value when multiplying by 2 tens

If you fall into the trap, enhance by the follow extra practices.

127 X 13 = _____

371 X 11 = _____

62 X 15 = _____

723 X 16 = _____

Multi-Digit Multiplication

Distributive property also can be applied to multi-digit multiplication.

Example:

23 X 243

= 23 X (200 + 40 + 3)

write the larger number in extended form

= 23 X 200 + 23 X 40 + 23 X 3

distributive property

= 4600 + 920 + 69

= 5589

Find the answer by distributive property. (5 coins each)

32 X 218 = _____

25 X 196 = _____

39 X 151 = _____

13 X 430 = _____

85 X 116 = _____

97 X 104 = _____

Division by 1-digit number

Use long division to divide larger number by one-digit number

1.Write the problem using a long division symbol.

$$3\overline{)76}$$

2.To divide start with the leftmost(digit the tens digit).

$$\begin{array}{r} 2 \\ 3\overline{)76} \\ -6 \\ \hline 1 \end{array} \longleftarrow 3 \times 2 = 6$$

3. 1 is left over, bring it down to the ones digit.

$$\begin{array}{r} 25 \\ 3\overline{)76} \\ -6\downarrow \\ \hline 16 \\ -15 \\ \hline 1 \end{array} \longleftarrow 3 \times 5 = 15$$

4.We heve 1 left over. There are no more digits to divide, so 1 is a remainder. The answer is 76÷3=25 R1. (comment Do not forget the remainder).

Tips:
You can check you answer by:
25 X 3 + 1 = 76

Find the answer by long division method (5 coins each)

78 ÷ 5 = _____

56 ÷ 7 = _____

99 ÷ 8 = _____

72 ÷ 9 = _____

88 ÷ 3 = _____

25 ÷ 2 = _____

45 ÷ 4 = _____

123 ÷ 4 = _____

233 ÷ 6 = _____

236 ÷ 7 = _____

Attention!

76 ÷ 3 = 25 R 1

```
    25
3 ) 76
   -6 ↓
    16
   -15
     1
```

Check: 25 X 3 - 1 = 74

Check: 25 X 3 + 1 = 76

Notice: when we **check** the answer, we have to **plus the remainder**, rather than minus it.

If you fall into the trap, enhance by the follow extra practices.

148 ÷ 5 = _____

456 ÷ 6 = _____

298 ÷ 8 = _____

772 ÷ 9 = _____

Multi-Digit Division

Distributive property also can be applied to multi-digit multiplication.

Example: 83 ÷ 15 = 34 R 3

```
          3 4   R 3
15 ) 5 1 3
3X15=45 → - 4 5
          ---------
            6 3
4X15=60 →   - 6 0
          ---------
              3 ← Remainder
```

Follow all steps as 1-digit division. And Check the answer

Check: 35 X 15 + 3 = 513

Add the remainder

Divide by long division method (5 coins each)

632 ÷46 = _____

456 ÷38 = _____

123 ÷11 = _____

832 ÷29 = _____

739 ÷ 21 = _____

294 ÷ 18 = _____

272 ÷ 16 = _____

1456 ÷ 25 = _____

Summary

Long division method

Step 1: Set up long division

$$3\overline{)76}$$

Step 2: To divide, start with the leftmost digit

$$\begin{array}{r} 2 \\ 3\overline{)76} \\ -6 \\ \hline 1 \end{array} \quad \leftarrow 3 \times 2 = 6$$

Step 3: Minus, bring down the digit on next place

$$\begin{array}{r} 25 \\ 3\overline{)76} \\ -6\downarrow \\ \hline 16 \\ -15 \\ \hline 1 \end{array} \quad \leftarrow 3 \times 5 = 15$$

Step 4: Repeat the step 2 & 3, until the remainder is less than the divisor.

$1 < 3$

Step 5: Check: Quotient X Divisor + Remainder = Divided

$25 \times 3 + 1 = 76$

TASK 3

Apply the skill into real life!

Word Problem

total price = amount X unit price

Example:

A fruit store recently sold 105 baskets of apples. The **price of each** basket of apples is 23 dollars. How much did these apples cost?

amount

unit price

Step 1: identify the quantity ---- total price, amount, and unit price

amount = 105 baskets, unit price = 23 dollars per basket

Step 2: plug value in to formula.

total price = 105 X 23 = 2415 dollars

Hint: the price of each usually represent the unit price

Word problems. (5 coins each)

1. A bookstore sold 36 copies of a book, and each book costs 11 dollars. How much did they earn from selling these books?

2. If a car is traveling 63 miles per hour, how far will the car travel in 13 hours?

3. A store sold 42 backpacks, and each backpack costs 64 dollars. How much revenue did they generate from selling backpacks?

4. A farm harvested 85 watermelons, and each watermelon weighed 18 pounds. What was the total weight of the watermelons?

5. A factory produced 72 bicycles, and each bicycle had 27 gears. How many gears were produced in total?

6. A bakery made 56 cakes, and each cake had 3 layers. How many layers were there in total?

7. A school bought 198 calculators, and each calculator cost 32 dollars. How much did the school spend on calculators

8. A garden has 75 rows of flowers, and each row has 16 flowers. How many flowers are there in total?

Congratulations!
You've completed all the Tasks.

Now! Scan the QR Code below to complete the final challenge and redeem your **gifts**!

Scan the QR code and redeem your victory!

Bridge to Middle School

Place Value → **Scientific Notation**

600000.

1 1 1 1 1

You have learned

6×10^{5}

You will learn in G7

Operation of Whole Number → **Operation of Negative Number**

300 X 7 = 2100

3 X 7 = 21

You have learned

300 X (-7)

You will learn in G7

Multiplication of Numbers → **Multiplication of Polynomials**

50 X 3 +50 X 7 = 50(3 + 7)

You have learned

50(3a + 7) = 150a + 350

You will learn in G7

Division of Whole Numbers → **Division of Fractions**

87÷ 5 = 17 R 2

You have learned

$5\frac{3}{4} \div 2\frac{1}{2}$

You will learn G6

Check List

- [ ] Addition and Subtraction
- [ ] Subtraction and Division
- [ ] Word Problems
- [ ] Quiz Time

REWARDS

TASK 1

Comparing and Order

To compare decimal numbers, compare the digits starting with the greatest place vaue.

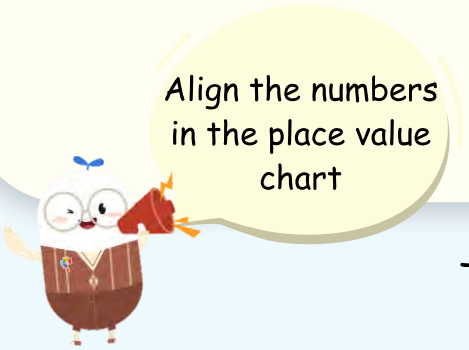
Compare 64.24 and 64.205

① Align the numbers in the place value chart

② Compare each digit starting from the left

Tens	Ones		Tenths	Hundredths	Thousandths
6	4	.	2	4	
6	4	.	2	0	5
6	4	.	2	4	
6	4	.	2	0	5
6 = 6	4 = 4		2 = 2	4 > 0	

③ Stop where the numbers are different



Therefore, 64.24 > 64.205

Order the numbers from least to greatest. (5 coins each)

3.25, 3.5, 3.125, 3.75, 3.87 — 3.125, 3.25, 3.5, 3.75, 3.875

0.125, 0.25, 0.0625, 0.5, 0.75 — _____

15.7, 15.75, 15.72, 15.705, 15.8 — _____

2.75, 2.5, 2.625, 2.875, 2.25 — _____

327.99, 37.1, 73.25, 19.05, 7.223, 15 — _____

Attention!

Compare 66.76 and 543.12.

```
  6 6. 7 6
  5 4 3. 1 2
```

6 > 5, 66.76 > 543.12

Step 1: Align the place value

```
  6 6. 7 6
5 4 3. 1 2
```

5 > 0, 543.12 > 66.76

Step 2: Compare the place value from right to left

Rounding Decimals

Case 1: If it is < 5, add 0 to the preceding number, and remove the rest.
Case 2: If it is ≥ 5, add 1 to the preceding number, and remove the rest.

Round 72.673 to its nearest tenths.

72.473 → 72.5

① 4 at the tenths place is to be rounded.
② The next digit to the right is 7.
③ 7 > 5, so 1 is added to 4 and 3 are removed.

Rounding. (5 coins each)

Round 8.734 to the nearest tenth. 8.7

Round 2.1689 to the nearest hundredth. _____

Round 6.9999 to the nearest whole number. _____

Round 0.0254 to the nearest thousandth. _____

Round 47.8932 to the nearest hundredth. _____

Attention!

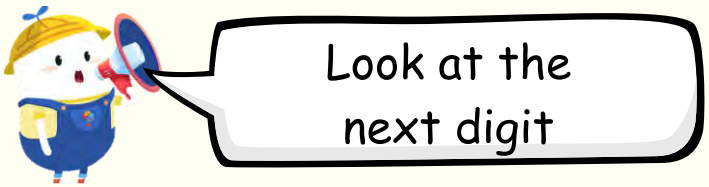
Round to the nearest tenths.

✗ 72.473 → 72.0

Look at the next digit to the right.

✓ 72.473 → 72.5

Since 7 > 5, add 1 to 4, which is the precding number.



If you fall into the trap, enhance by the follow extra practices.

Round 0.98765 to the nearest tenth. _____

Round 6.3333 to the nearest hundredth. _____

Round 5.8742 to the nearest tenth. _____

Round 3.14159 to the nearest hundredth. _____

Round 0.00789 to the nearest thousandth. _____

Summary

Round 341.92 to the nearest whole number.

Step 1: look at the number we want to round.

3 4 1 . 9 2

mark the digit in the one's place

Step 2: look at the next place value.

3 4 1 . 9 2

Step 3: Rounding.

9 > 5, so add 1 to one's digit, 1 + 1 = 2.

so 342.

Case 1:
If it is < **5**, add 0 to the preceding number, and remove the rest.

Case 2:
If it is ≥ **5**, **add 1** to the preceding number, and remove the rest.

Adding Decimals

Step 1: Line up the decimal points of the numbers.

$$\begin{array}{r} 12.6 \\ +\ \ 4.5 \\ \hline \end{array}$$

Step 2: Add the digits from right to left, just like you do with whole numbers.

$$\begin{array}{r} \overset{1}{1}\,2.6 \\ +\ \ 4.5 \\ \hline 1 \end{array}$$

Step 3: Carry over any excess to the next place value if the sum in a place value is 10 or greater.

$$\begin{array}{r} 1\,\overset{1}{2}.6 \\ +\ \ 4.5 \\ \hline 7.1 \end{array}$$

(1 + 2 + 4)

Step 4: Continue adding digits to the left until all digits have been added. Place the decimal point in the answer directly below the decimal points in the numbers being added.

$$\begin{array}{r} 1\,\overset{1}{2}.6 \\ +\ \ 4.5 \\ \hline 17.1 \end{array}$$

Don't miss the decimal point in the answer.

Add the decimals. (5 coins each)

5.25 + 2.75 = _____

2.85 + 6.51 = _____

10.2 + 4.8 = _____

34.2 + 9.1 = _____

0.75 + 0.25 = _____

0.98 + 0.13 = _____

7.8 + 2.345 = _____

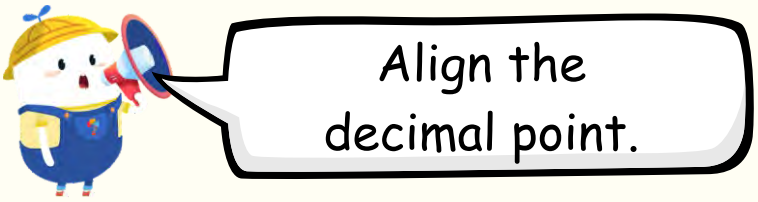
4.2 + 7.171 = _____

6.123 + 0.9876 = _____

9.239 + 0.1454 = _____

Attention!

Decimal points lined up	Incorrect Lining up the digits from the right side
$\begin{array}{r} 12.5 \\ +\ 6.23 \\ \hline 18.73 \end{array}$ ✓	$\begin{array}{r} 12.5 \\ +\ 6.23 \\ \hline 7.48 \end{array}$ ✗



If you fall into the trap, enhance by the follow extra practices.

9.14 + 8.14 = _____

4.99 + 4.11 = _____

54.9 + 7.3 = _____

38.2 + 5.8 = _____

Subtracting Decimals

Step 1: Line up the decimal points of the numbers, just as in addition.

$$\begin{array}{r} 12.6 \\ -\ \ 4.5 \\ \hline \end{array}$$

Step 2: Begin subtracting from right to left.

$$\begin{array}{r} 12.6 \\ -\ \ 4.5 \\ \hline 1 \end{array}$$

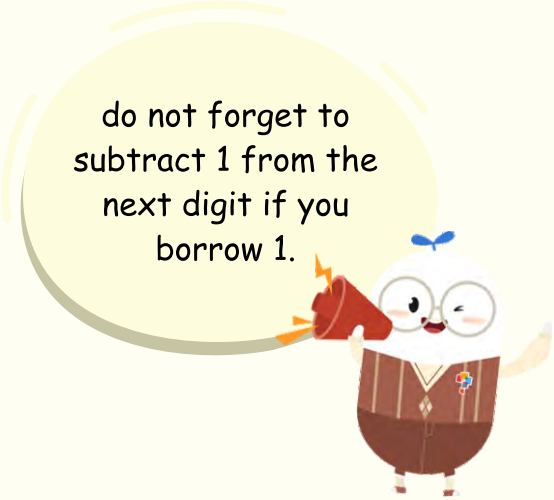
Step 3: If the digit being subtracted is larger than the digit you're subtracting from, borrow from the next higher place value.

$$\begin{array}{r} \overset{0}{\cancel{1}}\ \overset{12}{\cancel{2}}.6 \\ -\ \ 4.5 \\ \hline 8\ \ 1 \end{array}$$

$12-4=8$

Step 4: Continue subtracting digits to the left until all digits have been subtracted. Place the decimal point in the answer directly below the decimal points in the numbers being subtracted.

$$\begin{array}{r} 12.6 \\ -\ \ 4.5 \\ \hline 8.1 \end{array}$$



Subtract the decimals. (5 coins each)

16.2 - 2.55 = _____

5.12 - 1.69 = _____

19.2 - 2.7 = _____

163.1 - 23.9 = _____

0.93 - 0.18 = _____

189.9 - 29.3 = _____

62.8 - 4.18 = _____

91.1 - 52.31 = _____

96.41 - 23.236 = _____

23.39 - 11.44 = _____

Multiply Decimals

2.56 X 0.2

no. of decimal places

```
   1 1
   2.56   →  ②
X   0.2   →  ①
-------------   ___ +
   0.512  →  ③
```

① Ignore the decimal point and multiply

② Count from the right and put the point

4.12 X 0.15

no. of decimal places

```
     1
    4.12   →  ②
X  0.15    →  ②
-------------
   20 60
+ 41 2
-------------   ___ +
  0.61 80  →  ④
```

① Ignore the decimal point and multiply

② Count from the right and put the point

Multiply the decimals. (5 coins each)

4.5 X 2.6 = _____

1.2 X 8.4 = _____

0.14 X 2.36 = _____

1.84 X 3.6 = _____

8.7 X 1.39 = _____

81.7 X 1.2 = _____

11.5 X 1.7 = _____

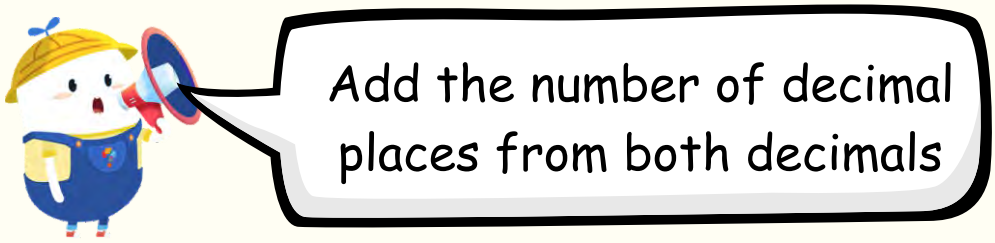
32.5 X 0.7 = _____

0.21 X 5.21 = _____

12.1 X 4.2 = _____

Attention!

$$\begin{array}{r} 2.56 \\ \times \quad 0.2 \\ \hline 5\,1.2 \end{array} \qquad \begin{array}{r} 2.56 \\ \times \quad 0.2 \\ \hline 0.5\,1\,2 \end{array}$$



If you fall into the trap, enhance by the follow extra practices.

7.24 X 0.14 = _____

49.9 X 0.05 = _____

74.1 X 1.3 = _____

12.2 X 1.2 = _____

Dividing Decimals

Dividing decimals **by whole number**

Divide. 5) 2.720

The divisor is a whole number. So divide directly

```
     0.544
5 ) 2.720
  - 0
    2 7
  - 2 5
      22
  -   20
      20
  -   20
       0
```

add 0 to the qutient as needed

Answer: 0.544

Continue the divison until you have a **remainder of 0**

Divide the decimals by a whole number. (5 coins each)

72.8 ÷ 5 = _____

63.1 ÷ 5 = _____

122.9 ÷ 5 = _____

109.3 ÷ 2 = _____

88.2 ÷ 3 = _____

96.3 ÷ 3 = _____

24.4 ÷ 4 = _____

88.1 ÷ 5 = _____

23.3 ÷ 5 = _____

39.02 ÷ 4 = _____

Attention!

```
      0.544
5 ) 2.720
    -0
      27
    -25
       22
    -  20
        20
    -   20
           0
```

Ans: 2.72 ÷ 5 = 0.54 R2

Ans: 2.72 ÷ 5 = 0.544

Continue division until you have a **remainder of 0**

If you fall into the trap, enhance by the follow extra practices.

152.8 ÷ 5 = _____

53.1 ÷ 3 = _____

312.8 ÷ 4 = _____

211.4 ÷ 2 = _____

Dividing Decimals

Shifting the **decimal point to the right** to make the divisor a whole number.

Divisor 1.6) 4.48 Dividend

① Multiply both the divisor and the dividend by 10. Shift the decimal point to the right until the divisor becomes a whole number.

1.6) 4.48

X10 X10

16) 44.80

② Divide.

```
     02.80
16 ) 44.80
    -0
      44
    -32
      128
    -128
        00
      - 0
         0
```

③ Place the decimal point in the quotient directly above the decimal point in the dibidend.

Answer: 2.8

Remember to shift the decimal points in both divisor and dividend

Divide the decimals by a decimal. (5 coins each)

2.8 ÷ 0.5 = _____

3.75 ÷ 0.25 = _____

7.29 ÷ 1.5 = _____

8.64 ÷ 0.72 = _____

15.3 ÷ 0.6 = _____

66.3 ÷ 0.3 = _____

34.4 ÷ 0.4 = _____

4.03 ÷ 2.6 = _____

10.04 ÷ 0.2 = _____

19.38 ÷ 10 = _____

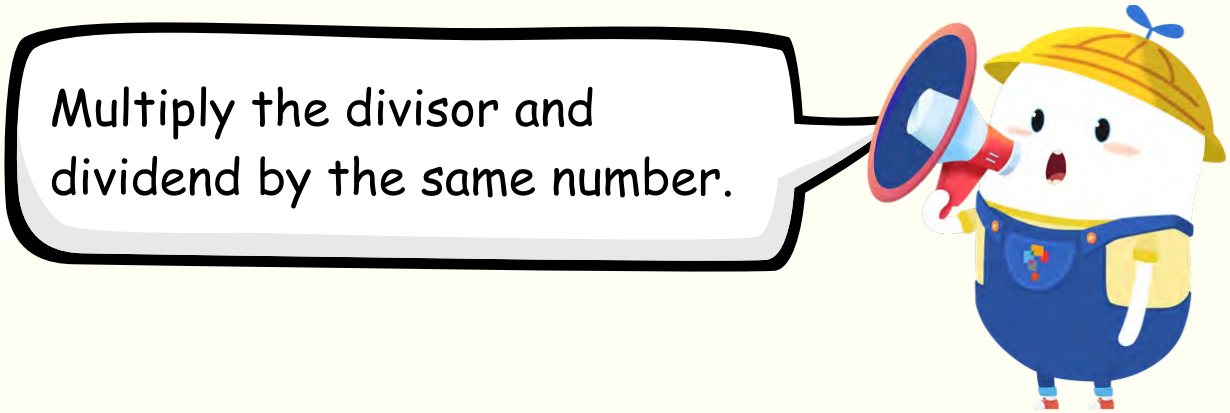
Attention!

✗ ✗ ✓

$1.7\overline{)9.37}$ → $1.7\overline{)9.37}$

$1.7\overline{)9.37}$ → $1.7\overline{)9.37}$

$1.7\overline{)9.37}$ → $1.7\overline{)93.7}$ (×10, ×10)



If you fall into the trap, enhance by the follow extra practices.

1.93 ÷ 0.5 = _____

8.68 ÷ 6.2 = _____

9.25 ÷ 2.5 = _____

15.08 ÷ 2.9 = _____

BONUS Distributive Property

Distributive property also can be used in **multiplication of decimals.**

Addition a (b + c) = ab + ac ⟶ ab + ac = a (b + c)

take the common factor: a out

Example:

1.5 X 1.3 + 1.5 X 3.7

1.5 is the common factor

take 1.5 out

= 1.5 X (1.3 + 3.7)

= 1.5 X 5

= 7.5

Distributive property also be a fast calculation method. Subtraction also works

Use the distributive property to multiply. Follow the example. (5 coins each)

1.5 X 2.3 - 1.5 X 2.7 = _____

8.23 X 0.09 + 8.23 X 1.91 = _____

1.14 X 0.3 - 0.14 X 0.3 = _____

2.4 X 3.09 - 2.4 X 3 = _____

3.4 X 2.79 + 3.4 X 1.21 = _____

5.5 X 1.82 - 5.5 X 0.82 = _____

Congratulations!
You've completed all the Tasks.

Now! Scan the QR Code below to complete the final challenge and redeem your **gifts**!

Scan the QR code and redeem your victory!

Bridge to Middle School

Decimals

4.12, 0.12

You have learned

Number System

Rational Numbers: $4.\overline{4}$

Irrational Numbers: $\sqrt{2}$ π

You will learn in G7

Multiplication of Decimals

2.1 X 15 = 31.5

```
      2.1
    X 1 5
    -----
21 X 5 → 1 0 5
    + 2 1 ← 21 X 1
    -----
    3 1.5
```

You have learned

Percent

Find the part by percent:

2.1 X 15% = 2.1 X 0.15 =
0.315

You will learn in G6

Division of Decimals

44.8 ÷ 16 = 2.8

```
      02.80
16 ) 44.80
     -0
      44
     -32
      128
     -128
        00
       - 0
         0
```

You have learned

Percent

Find the whole by percent:

44.8 ÷ 16%
= 44.8 ÷ 0.16
= 280

You will learn in G6

1 LEVEL

Addition of Fractions

2 LEVEL

Subtraction of Fractions

3 LEVEL

Operation of Mixed Numbers

4 LEVEL

Word Problems

BONUS

Simplest Form

Write $\frac{4}{12}$ in lowest terms.

1. Find the largest common factor of the numerator and the denominator.
   Factors of 4: 1, 2, 4
   Factors of 12: 1, 2, 3, 4, 6, 12

   The largest common factor of 4 and 12 is 4.

2. Divide the numerator and denominator by 4.

   $\frac{4 \div 4}{12 \div 4} = \frac{1}{3} \longrightarrow \frac{4}{12}$ written in lowest terms is $\frac{1}{3}$.

Divide the GCF of denominator and numerator to write the fraction in the simplest form.

Write the following fraction in the simplest form. (5 coins each)

$\frac{6}{9}$

$\frac{12}{16}$

$\frac{12}{24}$

$\frac{24}{42}$

$\frac{49}{63}$

$\frac{27}{36}$

Attention!

Find the simplest form of $\frac{12}{20}$

$$\frac{12}{20} \xrightarrow[\div 2]{\div 2} \frac{6}{10} \quad \times$$

$$\frac{12}{20} \xrightarrow[\div 4]{\div 4} \frac{3}{5} \quad \checkmark$$

Always check if it is reduced to the simplest form.

If you fall into the trap, enhance by the follow extra practices.

$\frac{3}{9}$

$\frac{48}{96}$

$\frac{25}{35}$

$\frac{28}{7}$

$\frac{64}{72}$

$\frac{36}{60}$

1 LEVEL

Adding with Like Denominator

Add the numerator, keep the denominator stay the same.

1. Recognize the same denominators

$\frac{1}{6} + \frac{2}{6}$ Two denominator are the same

2. Add the numerators
   Keep the denominator be the same

Add the numerators

$\frac{1}{6} + \frac{2}{6} = \frac{1+2}{6} = \frac{3}{6} = \frac{1}{2}$

Simplify

3. Simplify to lowest terms

Add. Write each fraction in simplest form. (5 coins each)

$\frac{1}{7} + \frac{4}{7} =$ _____

$\frac{3}{16} + \frac{7}{16} =$ _____

$\frac{5}{12} + \frac{7}{12} =$ _____

$\frac{13}{18} + \frac{5}{18} =$ _____

$\frac{3}{8} + \frac{7}{8} =$ _____

$\frac{6}{30} + \frac{9}{30} =$ _____

BONUS

Least Common Multiple

Find the **least common multiple (LCM)** of 5 and 6.

1. List the multiples of each number.

   Multiples of 5: 5, 10, 15, 20, 25, 30
   Multiples of 6: 6, 12, 18, 24, 30

2. Find the smallest number that appears in both lists.
   The least common multiple of 5 and 6 is 30.

The LCM is the **smallest whole number** that is a multiple of each of two or more numbers

Find the LCM. (5 coins each)

4 and 7.

3 and 12.

42 and 12.

8 and 36.

24 and 36.

45 and 60.

Adding with Unlike Denominator

When we have unlike denominators, find the **least common multiple (LCM)** to make the denominator equivalent.

1. Recognize the unlike denominators

$$\frac{1}{4} + \frac{2}{3}$$

Find the LCM:
Multiple of 4: 4, 8, 12
Multiple of 3: 3, 6, 9, 12

2. Change the denominator

$$= \frac{1 \times 3}{4 \times 3} + \frac{2 \times 4}{3 \times 4}$$

Make the denominator equivalent

3. Add the fraction

$$= \frac{3}{12} + \frac{8}{12}$$

Add the fraction with like denominator

4. Simplify to lowest terms

$$= \frac{11}{12}$$

The **least common multiple (LCM)** also can be called the **least common denominator (LCD)**.

Add. Write each fraction in simplest form. (5 coins each)

$\frac{1}{4} + \frac{1}{3} =$ _____

$\frac{3}{4} + \frac{3}{8} =$ _____

$\frac{3}{10} + \frac{11}{25} =$ _____

$\frac{5}{12} + \frac{2}{15} =$ _____

$\frac{2}{3} + \frac{4}{5} =$ _____

$\frac{16}{21} + \frac{3}{14} =$ _____

$\frac{3}{8} + \frac{7}{12} =$ _____

$\frac{1}{20} + \frac{4}{15} =$ _____

$\frac{15}{16} + \frac{7}{12} =$ _____

$\frac{3}{8} + \frac{3}{12} =$ _____

Attention!

Add. Write each fraction in simplest form. (5 coins each)

$$\frac{4}{5} + \frac{4}{9} = \cancel{\frac{4}{5+9}} = \frac{4}{14} = \frac{2}{7}$$

$$\frac{4}{5} + \frac{4}{9}$$

Unlike denominator fractions cannot be added directly.

$$= \frac{4 \times 9}{5 \times 9} + \frac{4 \times 5}{9 \times 5}$$

$$= \frac{36}{45} + \frac{20}{45}$$

Make the denominator equivalent, then add.

$$= \frac{36 + 20}{45}$$

Add numerators.

$$= \frac{56}{45}$$

To add fractions with unlike denominator, we have to make the denominator equivalent first

2 LEVEL

Subtracting with Like Denominator

1. Recognize the same denominators

$\frac{5}{6} - \frac{1}{6}$ Two denominator are the same

2. Subtract the numerators
   Keep the denominator be the same

3. Simplify to lowest terms

Subtract the numerators

$\frac{5}{6} - \frac{1}{6} = \frac{5 - 1}{6} = \frac{4}{6} = \frac{2}{3}$

Simplify

Subtract. Write each fraction in simplest form. (5 coins each)

$\frac{4}{7} - \frac{3}{7} =$ _____

$\frac{12}{13} - \frac{4}{13} =$ _____

$\frac{8}{9} - \frac{5}{9} =$ _____

$\frac{4}{5} - \frac{3}{5} =$ _____

$\frac{11}{16} - \frac{7}{16} =$ _____

$\frac{17}{18} - \frac{5}{18} =$ _____

Subtracting with Unlike Denominator

When we have unlike denominators, find the **least common multiple (LCM)** to make the denominator equivalent.

1. Recognize the unlike denominators

$$\frac{3}{4} - \frac{2}{5}$$

Find the LCM:
Multiple of 4: 4, 8, 12, 16, 20
Multiple of 5: 5, 10, 15, 20

2. Change the denominator

$$= \frac{3 \times 5}{4 \times 5} - \frac{2 \times 4}{4 \times 5}$$

Make the denominator equivalent

3. Subtract the fraction

$$= \frac{15}{20} - \frac{8}{20}$$

Subtract the fraction with like denominator

4. Simplify to lowest terms

$$= \frac{7}{20}$$

Subtracting fractions also require the **equivalent denominators.**

Subtract. Write each fraction in simplest form. (5 coins each)

$\frac{1}{2} - \frac{3}{7} =$ _____

$\frac{9}{13} - \frac{15}{26} =$ _____

$\frac{5}{8} - \frac{13}{24} =$ _____

$\frac{7}{9} - \frac{5}{12} =$ _____

$\frac{15}{14} - \frac{12}{21} =$ _____

$\frac{8}{15} - \frac{9}{20} =$ _____

$\frac{25}{32} - \frac{7}{24} =$ _____

$\frac{7}{9} - \frac{5}{12} =$ _____

$\frac{1}{6} - \frac{1}{12} =$ _____

$\frac{9}{20} - \frac{3}{10} =$ _____

BONUS

Improper Fractions

Different Types of Fractions:

$\frac{3}{5}$ — 3: Smaller; 5: Larger — Proper Fraction

$\frac{9}{5}$ — 9: Larger; 5: Smaller — Improper Fraction

$2\frac{1}{3}$ — Mixed Fraction

Conversion of improper fractions and mixed numbers:

Improper Fraction → Mixed Number

① Divide the numerator by the denominator

$\frac{23}{5}$

② The number of times the numerator goes into the denominator evenly is the whole number.

③ The remainder is the new numerator

④ The denominator stays the same

$$\begin{array}{r} 4 \\ 5\overline{)23} \\ -\ 20 \\ \hline r3 \end{array}$$

⑤ Simplify the frocional part if pssible.

$4\frac{3}{5}$

Mixed Number → Improper Fraction

① Multiply the denominator by the whole number and add the numerator

$4\frac{3}{5}$

$20+3=23$

$4\frac{3}{5}$

$20 = 4 \times 5$

② The result of step 1 is the new numerator

③ The denominator stays the same.

$\frac{23}{5}$

Convert the mixed number into the improper fraction. (5 coins each)

$3\frac{4}{5}$ = $\frac{19}{5}$

$3 \times 5 + 4 = 19$

$1\frac{1}{8}$ = _____

$2\frac{6}{7}$ = _____

$5\frac{1}{2}$ = _____

$2\frac{4}{13}$ = _____

$2\frac{8}{9}$ = _____

Convert the improper fraction into the mixed number. (5 coins each)

$\frac{19}{11}$ = $1\frac{8}{11}$

$19 \div 11 = 1$ R 8

$\frac{27}{4}$ = _____

$\frac{43}{9}$ = _____

$\frac{54}{3}$ = _____

$\frac{18}{7}$ = _____

$\frac{123}{5}$ = _____

3 LEVEL

Adding Mixed Numbers

To add mixed numbers, we can add whole numbers and fractions, respectively.

Try $3\frac{4}{5} + 2\frac{3}{10}$

1. Add the whole numbers.

$= 3 + 2 = 5$

2. Add the fraction using the LCD.

$= \frac{4}{5} + \frac{3}{10} = \frac{8}{10} + \frac{3}{10} = \frac{11}{10} = 1\frac{1}{10}$

Change the improper fraction into a mixed number

Make the denominator equivalent

3. Combine these two answers.

$3\frac{4}{5} + 2\frac{3}{10} = 5 + 1\frac{1}{10} = 6\frac{1}{10}$

Add the whole numbers again to find the final answer.

Adding mixed number also requires **the equivalent denominator.**

Add. Write each fraction in simplest form. (5 coins each)

$2\frac{1}{2} + 1\frac{1}{3} =$ _____ .

$2\frac{3}{4} + 6\frac{1}{5} =$ _____ .

$2\frac{1}{5} + 1\frac{2}{5} =$ _____ .

$3\frac{1}{2} + 2\frac{1}{3} =$ _____ .

$\frac{5}{6} + 2\frac{1}{4} =$ _____ .

$2\frac{7}{15} + 2\frac{3}{10} =$ _____ .

$4\frac{2}{3} + 5\frac{7}{8} =$ _____ .

$\frac{17}{4} + 3\frac{5}{6} =$ _____ .

Attention!

Add. Write each fraction in simplest form. (5 coins each)

$3\frac{4}{5} + 2\frac{3}{10} = 5 + \frac{11}{10} = 5\frac{11}{10}$ ✗

$3\frac{4}{5} + 2\frac{3}{10} = 5 + 1\frac{1}{10} = 6\frac{1}{10}$ ✓

After adding fractions, convert the improper fraction into mixed number

Subtracting Mixed Numbers

To add mixed numbers, we can add whole numbers and fractions, respectively.

Try $5\frac{3}{4} - 2\frac{1}{2}$

1. Subtract the whole numbers. $= 5 - 2 = 3$
2. Subtract the fraction using the LCD $= \frac{3}{4} - \frac{1}{2} = \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$

   Make the denominator equivalent
3. Combine these two answers $5\frac{3}{4} - 2\frac{1}{2} = 3\frac{1}{4}$

Subtract. Write each fraction in simplest form. (5 coins each)

$6\frac{5}{7} - 4\frac{3}{7} =$ _____ .

$5\frac{3}{4} - 2\frac{5}{8} =$ _____ .

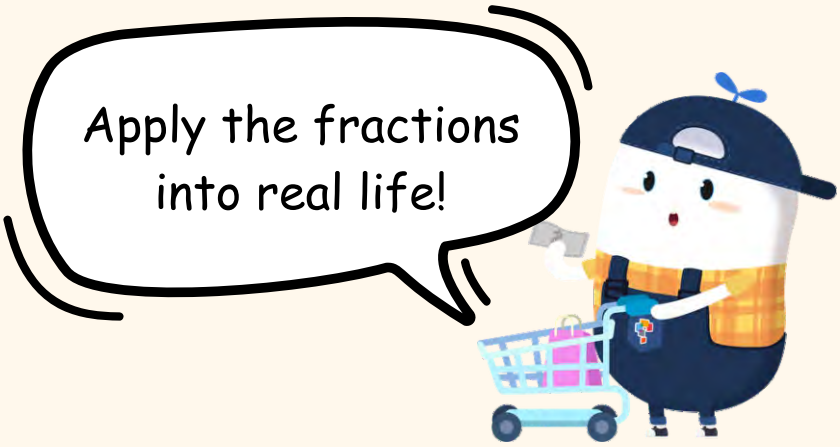
$6\frac{8}{9} - 4\frac{7}{12} =$ _____ .

$5\frac{1}{3} - 2\frac{1}{2} =$ _____ .

$5\frac{3}{4} - 2\frac{5}{8} =$ _____ .

$14\frac{11}{12} - 12\frac{7}{15} =$ _____ .

4 LEVEL



A garden had $8\frac{3}{4}$ pounds of tomatoes. If $3\frac{1}{2}$ pounds of tomatoes were used for cooking, how many pounds of tomatoes are left?

A bakery had $5\frac{2}{3}$ kilograms of flour. If $1\frac{1}{4}$ kilograms of flour were used for baking, how many kilograms of flour are left?

A construction site had $12\frac{1}{5}$ cubic meters of sand. If $4\frac{2}{3}$ cubic meters of sand were used for the foundation, how many cubic meters of sand are left?

A store had $15\frac{3}{8}$ liters of milk. If $7\frac{1}{2}$ liters of milk were sold, how many liters of milk are left?

A tank was filled with $20\frac{1}{4}$ gallons of water. If $9\frac{3}{4}$ gallons of water leaked, how many gallons of water are left in the tank?

A farmer harvested $18\frac{3}{5}$ bushels of corn. If $6\frac{1}{4}$ bushels of corn were sold, how many bushels of corn are left?

A restaurant had $14\frac{1}{2}$ kilograms of meat. If $5\frac{3}{4}$ kilograms of meat were used for cooking, how many kilograms of meat are left?

A classroom had $17\frac{2}{3}$ meters of cloth. If $9\frac{1}{5}$ meters of cloth were used for making curtains, how many meters of cloth are left?

A car had $22\frac{3}{4}$ gallons of fuel. If $11\frac{1}{3}$ gallons of fuel were used during the trip, how many gallons of fuel are left in the car?

A painter had $25\frac{2}{5}$ liters of paint. If $13\frac{3}{4}$ liters of paint were used for painting the walls, how many liters of paint are left?

Congratulations!
You've completed all the Tasks.

Now! Scan the QR Code below to complete the final challenge and redeem your **gifts**!

Scan the QR code and redeem your victory!

Bridge to Middle School

Fractions

$\frac{2}{4}$

You have learned

Ratios

$\frac{2}{4} = 2 : 4 = 2 \text{ to } 4$

You will learn in G6

Equivalent Fractions

$\frac{2}{4} = \frac{4}{8}$

You have learned

Equivalent Ratios

$2 : 4 = 4 : 8$

You will learn in G6

Operations with Fractions

$\frac{1}{3} + \frac{1}{4}$

You have learned

Operation of Fractional Expressions

$\frac{x}{3} + \frac{x^2}{6}$

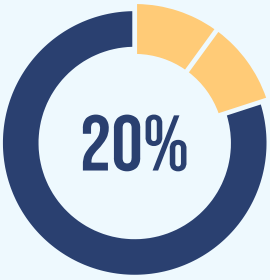
You will learn in G7

Fractional Equations

$\frac{x}{3} + \frac{x}{6} = 9$

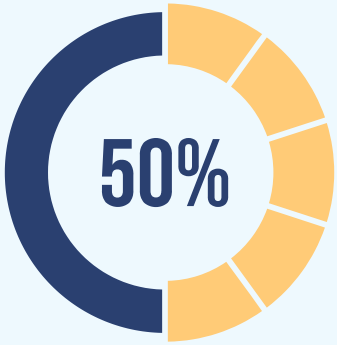
You will learn G6

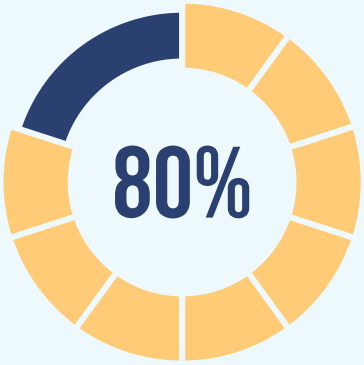
Check List



Order of Operations

Writing Expressions





Word Problems

Quiz Time

REWARDS

BONUS

Exponent

Exponents are a way to represent numbers that are being multiplied repeatedly by themselves.

$$6 \times 6 = 6^2$$

Base 6^2 Exponent

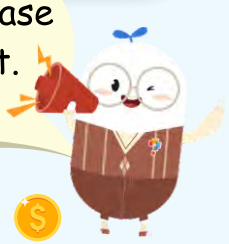
6 times it self twice.

$$\frac{1}{5} \times \frac{1}{5} \times \frac{1}{5} \times \frac{1}{5} = \left(\frac{1}{5}\right)^4$$

Base $\left(\frac{1}{5}\right)^4$ Exponent

1/5 times it self four times.

Identify the base and exponent.



Rewrite each expression using an exponent (5 coins each)

4 X 4 X 4 = 4^3

1/4 X 1/4 X 1/4 X 1/4 = _____

3 X 3 X 3 X 3 X 3 = _____

2/3 X 2/3 X 2/3 X 2/3 = _____

6 X 6 X 6 X 6 = _____

3/11 X 3/11 X 3/11 X 3/ 11 = _____

Rewrite each expression in expanded form and find the value.
(5 coins each)

4^2 = _____ = _____

2^4 = _____ = _____

5^3 = _____ = _____

7^2 = _____ = _____

9^3 = _____ = _____

3^4 = _____ = _____

5^4 = _____ = _____

4^5 = _____ = _____

Attention!

4^3 = 4 X 3 = 12 ✗

4^3 = 4 X 4 X 4 = 12 ✓

Exponent is the repeated multiplication

BONUS

Parentheses

Parentheses have the highest priority, the expression in the parentheses should be solved at first.

Without parenthesis:
solve from left to right

2 X 4 + 6
Solve multiplication first

= 8 + 6

= 14

With parenthesis:
Solve the parenthesis

2 X (4 + 6)

= 2 X 10

= 20

Solve the parentheses first.

Find the value of each expression. (5 coins each)

(8+12) X 7 = _____

7 X (9+2) = _____

2 X (6 + 5) = _____

21 - (7 + 9) = _____

8 ÷ (8 - 4) = _____

36 ÷ (6 X 2) = _____

20%

Operations

The priority of the operation is decreasing from left to right

1	2	3		4	
P	E	M	D	A	S
Parentheses	Exponents	Multiply	Divide	Add	Subtract
( )	e^2	(×)	(÷)	(+)	(−)
		Left to Right (whichever comes first)		Left to Right (whichever comes first)	

Step 1: Solve the parenthesis;
Step 2: Solve the exponent;
Step 3: Solve the multiplication and division, from left to right;
Step 4: Solve the addition and subtraction, from left to right.

1 Parenthesis

Exponent 2

$15 \times (2 + 4) \div 3^2$

3 Multiplication

Division 4

$= 15 \times 6 \div 3^2$

$= 15 \times 6 \div 9$

$= 90 \div 9$

$= 10$

We can remember the order of the operation as PEMDAS.

Find the value of each expression. (5 coins each)

(12 - 8) X 2 = _____

4 X (3+2) ÷ 6 = _____

(44 ÷ 4) + (12 -7) = _____

9 X 6 - (7 + 9) = _____

21 ÷ (9 - 6) +(7 -2)= _____

6^2 ÷ (3 X 2) = _____

(4^3 ÷ 8) + (16 - 10) = _____

(7 X 6 - 9) - (12 + 10) = _____

48 ÷ (18 - 6 X 2) = _____

9^2 ÷ (4 X 2+1) = _____

Attention!

Find the value of each expression.

The priority:
Multiplication > Subtraction

$3 \times (8 - 2 \times 3)$
$= 3 \times (6 \times 3)$
$= 3 \times 18$
$= 48$

$3 \times (8 - 2 \times 3)$
$= 3 \times (8 - 6)$
$= 3 \times 2$
$= 6$

In the parenthesis, follow the order of PEMDAS.

If you fall into the trap, enhance by the follow extra practices.

$(9 \times 2 - 9) - (8 + 1) =$ _____

$72 \div (16 - 6 \times 2) =$ _____

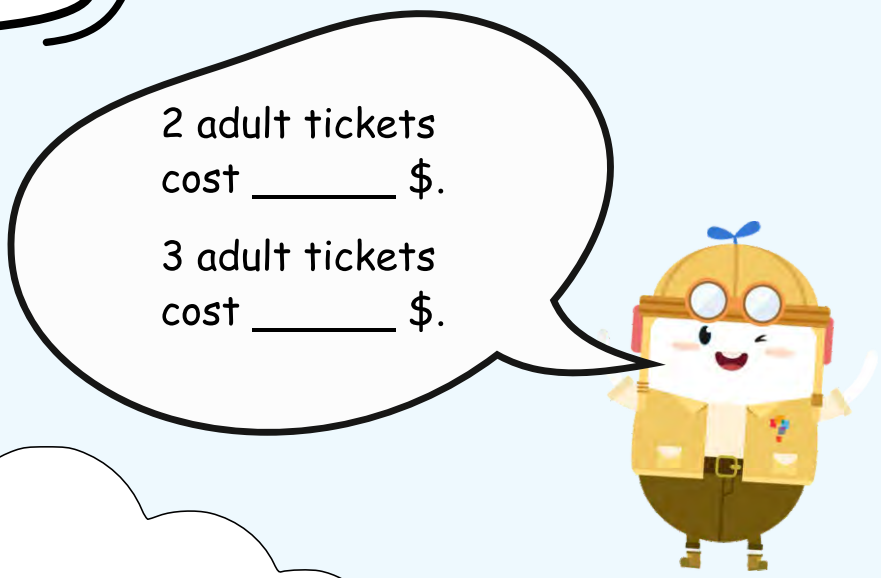
$(16 + 1 - 9) \div (2 \times 2) =$ _____

$(6 \times 5 - 4 \times 3) \div (7-1) =$ _____

$(32 \div 2 - 9) - (12 - 8) =$ _____

$56 \div (17 - 3 \times 2 - 3) =$ _____

From Numbers



50%

Expressions

Expressions are mathematical phrases that contain numbers, variables, and operations.

variable number

x - 6

operation

Variable: a symbol that represents a unknown value in a mathematical expression.

Find the expression. (5 coins each)

In Disneyland, the ticket for adults is $100 each, the ticket for children is 50$.

3 adult tickets and 2 children will totally cost
_____ = _____ dollars.

4 adult tickets and 9 children will totally cost
_____ = _____ dollars.

m adult tickets and 9 children will totally cost
_____ = _____ dollars.

m adult tickets and n children will totally cost
_____ = _____ dollars.

Write the expression based on the phrase. (5 coins each)

3 less than k _____

5 less than x _____

The sum of x and 3 _____

12 divided by x _____

7 less than 2x _____

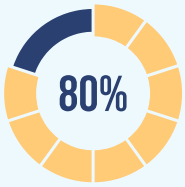
9 minus 4x _____

5x more than 2 _____

9 multiplied x, and add three _____

The sum of 9 times x and 8 times y _____

The difference between 12 times x and 8 times y _____



Word Problems

Key words to tackle the word problem.

Addition	Subtraction
in all	decreased by
more than	less
combined	take away
all together or altogether	difference
total	less than
sum	fewer than
plus	left, left over
added to	smaller than
greater than	how many more
abcess	remaining

Multiplication	Division
times	per
multiplied by	out of
times more (two times more)	each gets/each has
product of	divided equally
twice as much, three times..	fraction of
each (in each box, they each got two...)	equal pieces, an equal amount
every	split

Let's tackle the word problem. (5 coins each)

Jack has 15 bags of candies, he gave x bags to John and got 7 bags left. Find x.

Mike bought a toy which cost 39.5 dollars. He paid 50 dollars and got back x dollars. Find x.

The construction team worked on a 90km long road. They built 4.5 km each day and they worked for x days. Find x.

The grocery store has 326 bags of raisin in store, the manager decided to order x bags. Now there are 518 bags of raisin in store. Find x.

Students has made 90 paper flowers in total. Boys made x flowers, and girls made twice as many flowers as boys. Find x.

There is a stack of printer paper with 492 sheets, x sheets have been used, and 118 sheets are left. Find x.

Apples are x dollar per kilogram. Mom paid 20 dollar to buy 2kg of apples and got 1.4 dollar back. Find x.

The school cafeteria has ten tons of flour in store. The cafeteria uses up x amount of flour every month on average. After three months, the school had only 2.5 tons of flour left. Find x.

Congratulations!
You've completed all the Tasks.

Now! Scan the QR Code below to complete the final challenge and redeem your **gifts**!

Scan the QR code and redeem your victory!

Bridge to Middle School

Exponents

6^2

$= 6 \times 6$

$= 36$

You have learned

Exponents Formula

$\left(\frac{a}{b}\right) = \frac{a^n}{b^n}$ $\quad \frac{a^n}{a^m} = a^{n-m}$

$(x^a)^b = x^{ab}$ $\quad x^a \times x^b = x^{a+b}$

You will learn in G7

Algebraic Expressions

$3x + 2$

You have learned

Linear Equations

$3x + 2 = y$

You will learn in G6

Linear Inequalities

$3x + 2 > 4$

You will learn in G7

Task 1

Polygons

Task 2

Triangles

Task 3

Parallelograms

Task 4

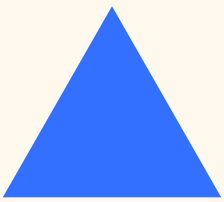
Trapzoids

Polygons

A polygon is a simple (it does not cross itself) closed figure made up of line segments (not curves) in a two-dimensional plane.

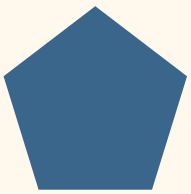
Name the Polygons

Polygons are classified by the number of sides and vertices they have.

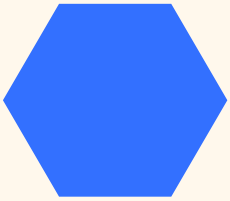


Triangles
# of Sides: 3

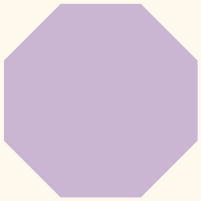
Quadrilaterals
# of Sides: 4



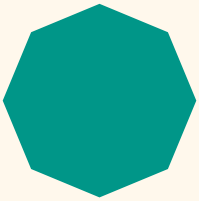
Pentagons
# of Sides: 5



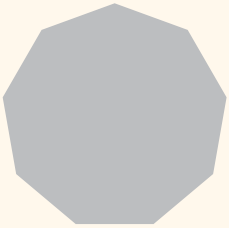
Hexagon
# of Sides: 6



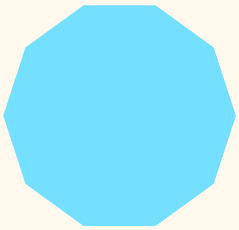
Heptagons
# of Sides: 7



Octagons
# of Sides: 8



Nonagon
# of Sides: 9

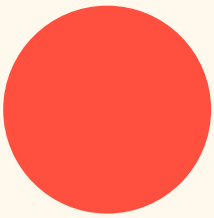
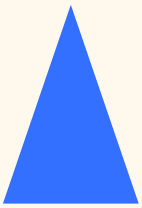


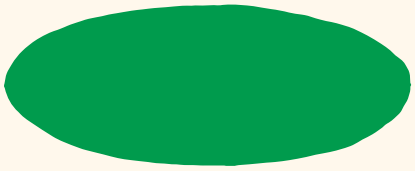
Dodecagon
# of Sides: 10

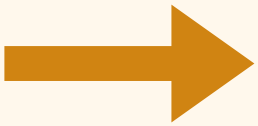
If all of the sides are the same length, the shape is regular. If they are not the same length, it is irregular.

Task 1

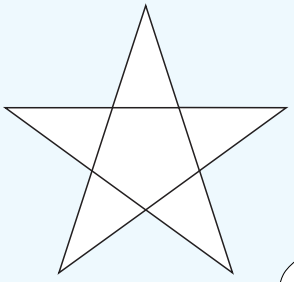
Determine if the shape is a polygon, if it is, how many sides does it have? (5 coins each)

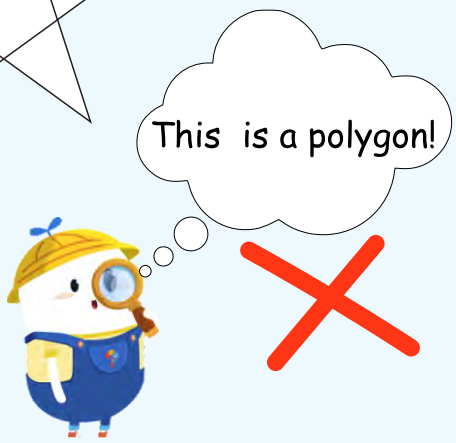



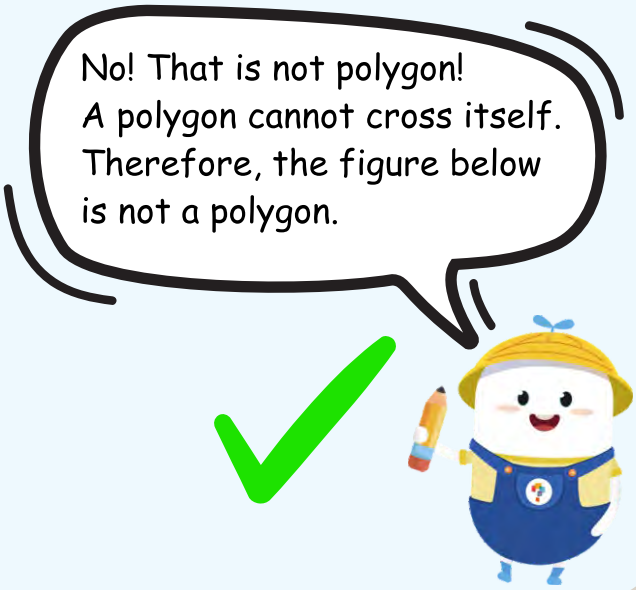




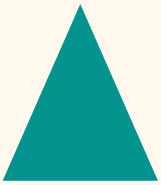
Attention!







Match the name and the polygon below.

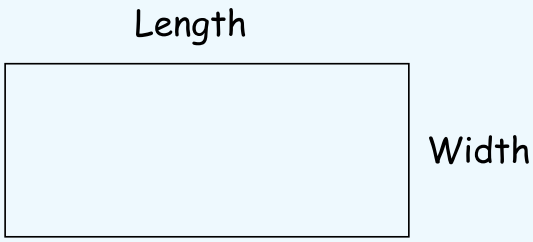


Parallelogram

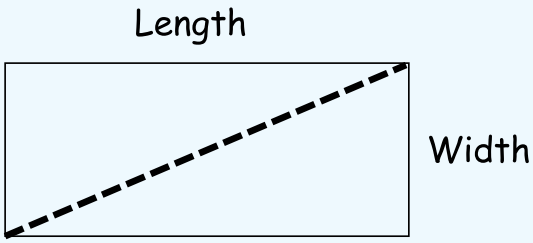
Triangle

Rectangle

From Rectangles to Triangles

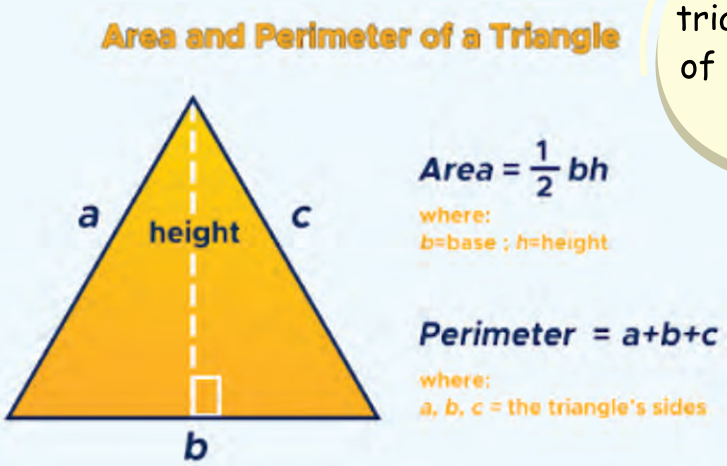


Area of the Rectangle
= Length X Width



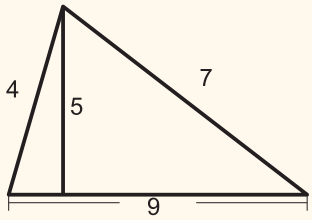
Area of the Triangle
$= \frac{1}{2}$ X Length X Width

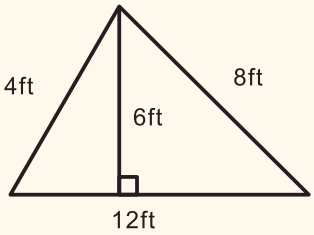
Area of the triangle is the half of the area of the rectangle.



Task 2

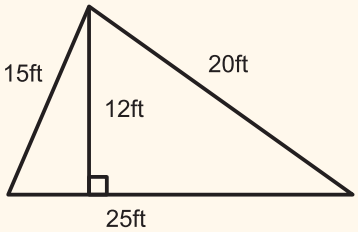
Find the perimeter and the area of the triangle below. (5 coins each)

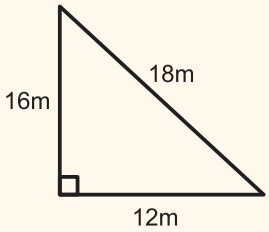


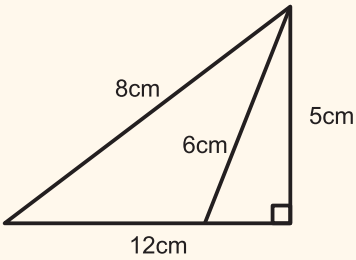


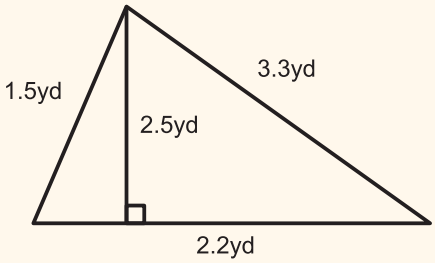
Answer:

Perimeter:	Area:
P=a+b+c	$A=\frac{1}{2}bh$
P=4+7+9	$A=\frac{1}{2}(9)(5)$
P=20	$A=\frac{45}{2}$

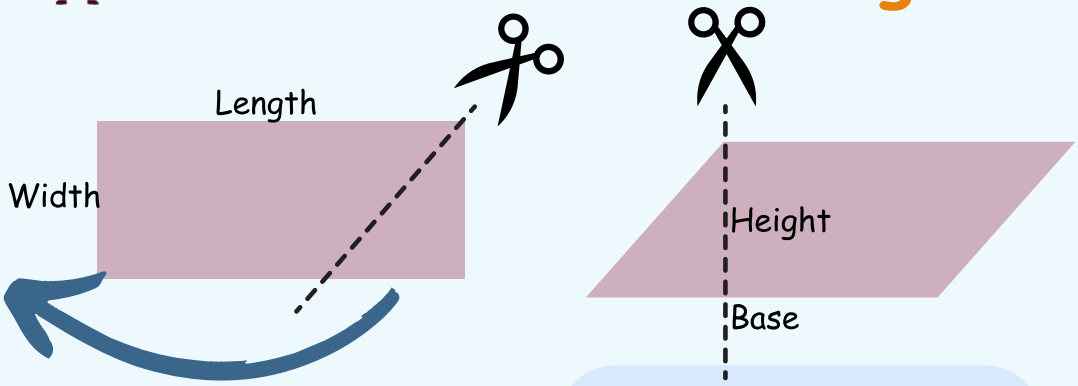






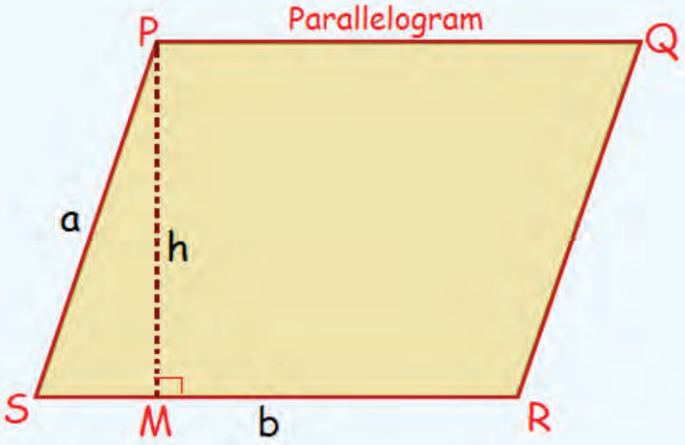


From Rectangles to Parallelograms



Move the small triangle to another side.

Area of the parallelogram
= Base X Height



Perimeter of a parallelogram (P) = 2(sum of the adjacent sides)

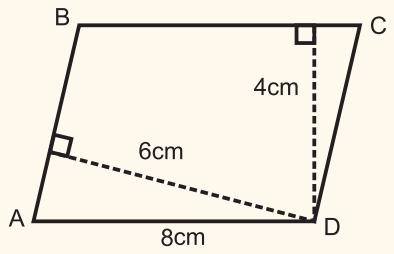
= 2(a + b)

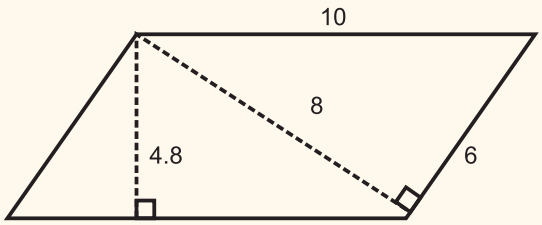
Area of a parallelogram (A) = base × height

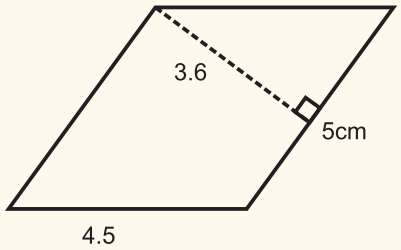
= b × h

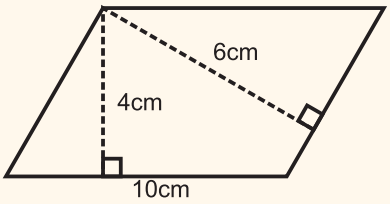
Task 3

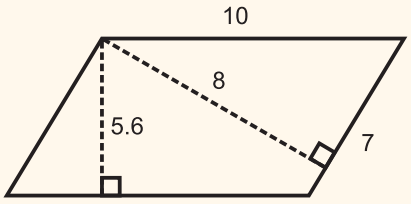
Find the area of the parallelogram. (5 coins each)

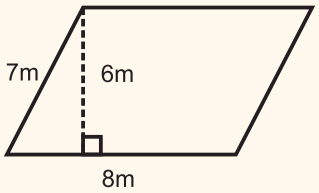




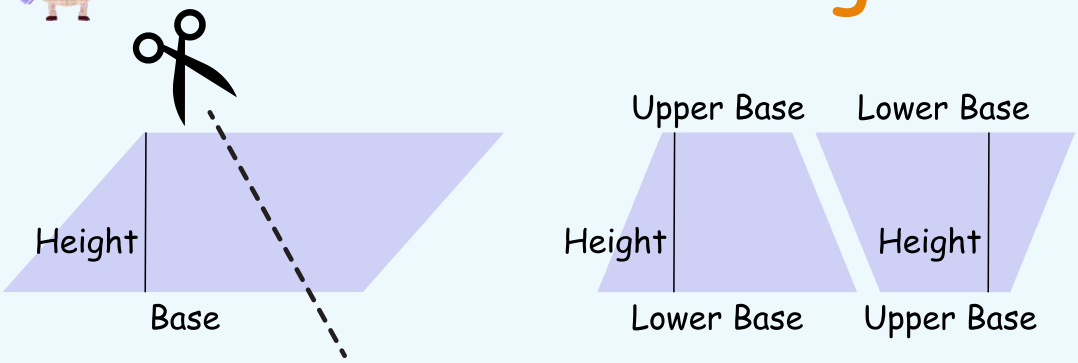








From Parallelograms to Rectangles

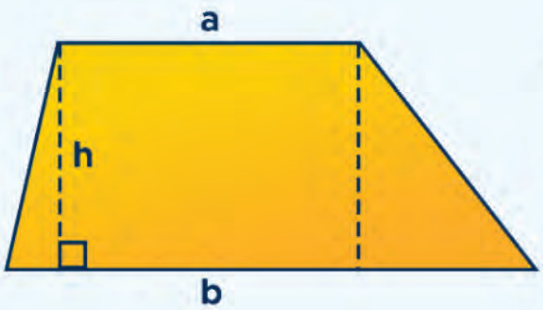


Area of the parallelogram
= Base X Height

Base = Lower Base + Upper Base

Area of the Trapezoid
= $\frac{1}{2}$ (Lower Base + Upper Base) X Height

Area of a Trapezoid



$$A = \frac{a + b}{2} h$$

Where:

A = Area of a Trapezoid

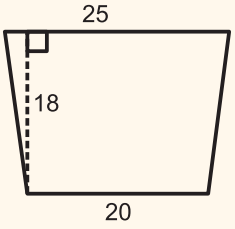
a = length of base 1

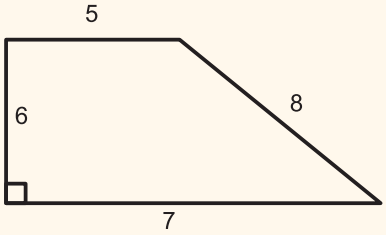
b = length of base 2

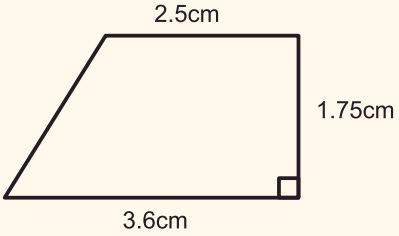
h = height of the trapezoid

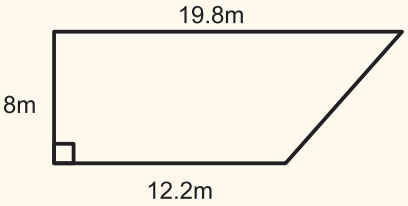
Task 4

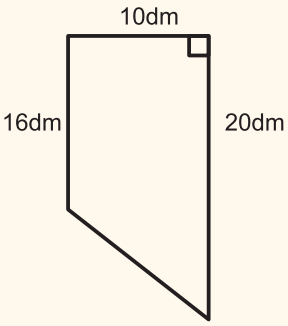
Find the area of the trapezoids below. (5 coins each)

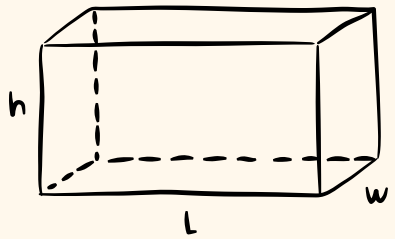




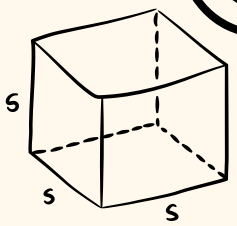




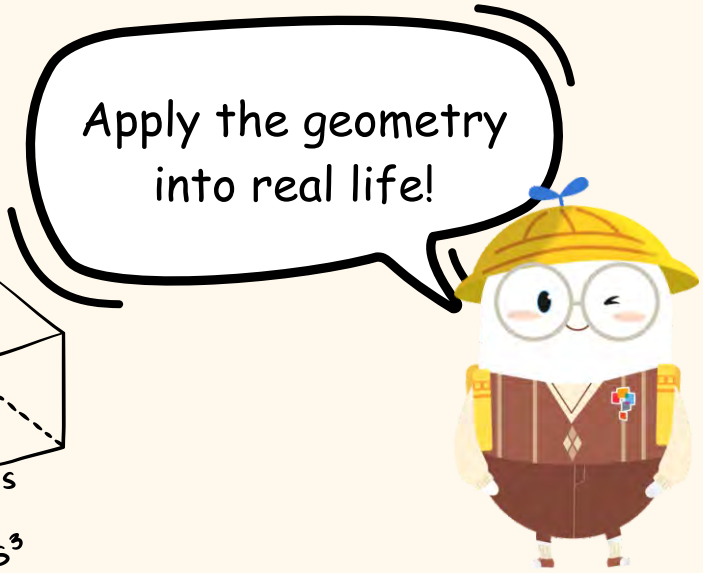




$V = lwh$



$V = s^3$



Henry built a rectangular prism-shaped bookshelf that is 2 m long, 1.5 m wide, and 2.5 m high. Books for the shelf cost 3.20 per cubic meter dollars each. How much will it cost to fill the bookshelf with books?

Emma constructed a rectangular prism-shaped water tank that measures 3 m in length, 2 m in width, and 4 m in height. If the cost of filling the tank with water is 2.50 dollars per cubic meter, what is the total cost?

William is building a rectangular prism-shaped storage container that measures 4 m in length, 3 m in width, and 2 m in height. If the cost of filling the container with sand is 4.60 dollars per cubic meter, what is the total cost?

Olivia is designing a rectangular prism-shaped fish tank that is 5 m long, 3 m wide, and 2.5 m high. If the cost of filling the tank with water is 3.50 dollars per cubic meter, what is the total cost?

Robert is constructing a rectangular prism-shaped pool that measures 6 m in length, 4 m in width, and 2 m in height. If the cost of filling the pool with water is 5.25 dollars per cubic meter, what is the total cost?

Sophia is building a rectangular prism-shaped sandbox that is 3 m long, 2.5 m wide, and 1.5 m high. Sand for the sandbox costs 4.75 dollars per cubic meter. How much will it cost to completely fill the sandbox with sand?

Michael is constructing a rectangular prism-shaped storage room that measures 7 m in length, 5 m in width, and 3 m in height. If the cost of filling the room with boxes is 6.40 dollars per cubic meter, what is the total cost?

Emily is building a rectangular prism-shaped container that measures 4 m in length, 3 m in width, and 2 m in height. If the cost of filling the container with sand is 3.75 dollars per cubic meter, what is the total cost?

Congratulations!
You've completed all the Tasks.

Now! Scan the QR Code below to complete the final challenge and redeem your **gifts**!

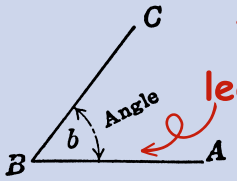
Scan the QR code and redeem your victory!

Bridge to Middle School

Polygons

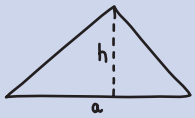
You have learned

Angles



You will learn in G8

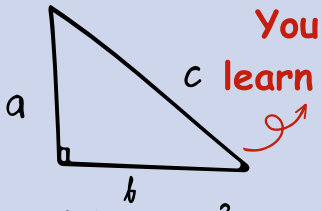
Area of Triangles



$\frac{1}{2} \times a \times h$

You have learned

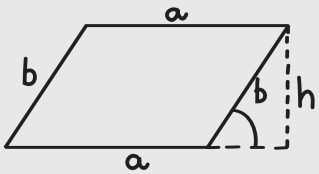
Pythagorean Theorem



$a^2 + b^2 = c^2$

You will learn in G8

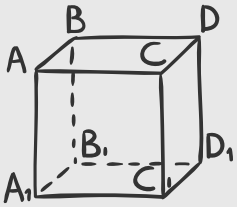
Area of Polygons



$a \times h$

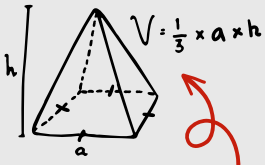
You have learned

Surface Area and Volume of 3D Shapes



$A = 6l^2$

You will learn G6



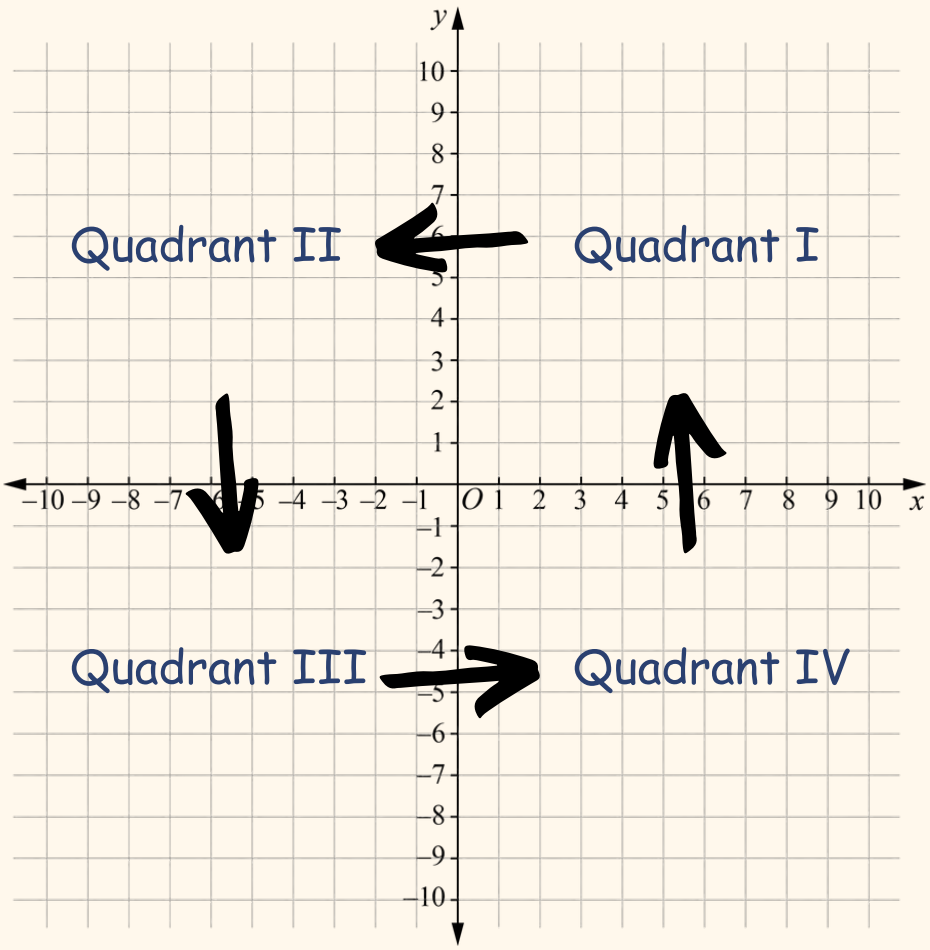
$V = \frac{1}{3} \times a \times h$

You will learn G8

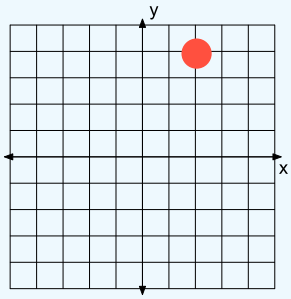
x, y - axis,
Quadrants
Coordinates
Points
Quiz
Middle School

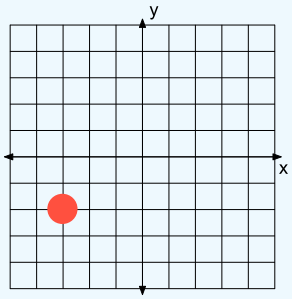
x,y-axis and Quadrants

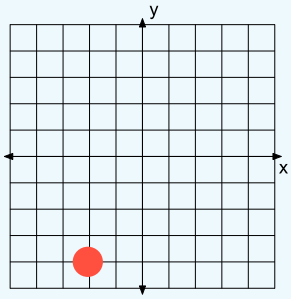
The coordinate plane is formed by two perpendicular lines called the x-axis and y-axis. The origin is the center of the coordinate plane. It has coordinates (0, 0).

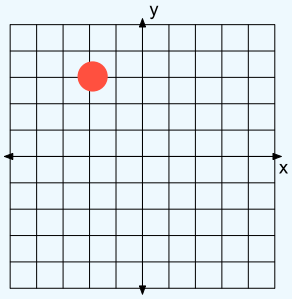


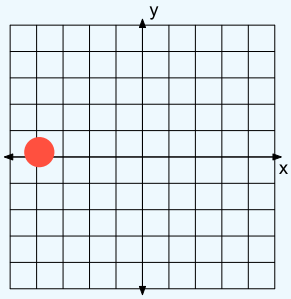
Identify the quadrant or the axis the point belongs to. (5 coins each)

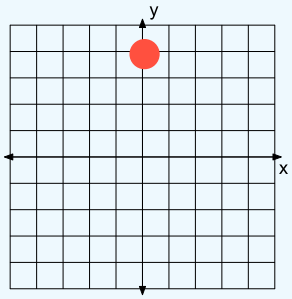


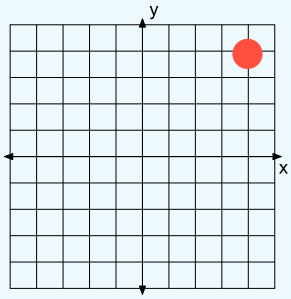


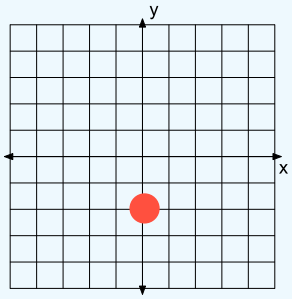






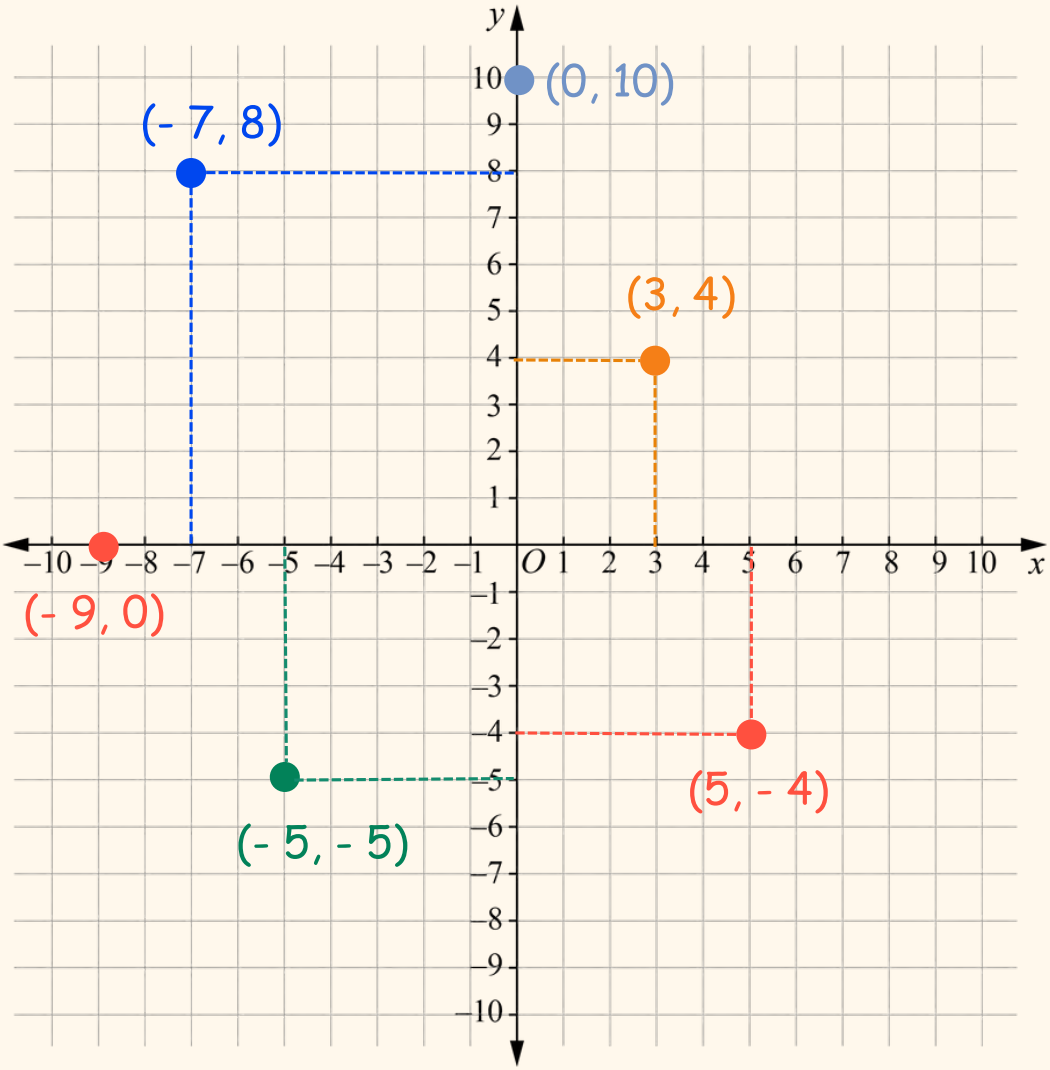




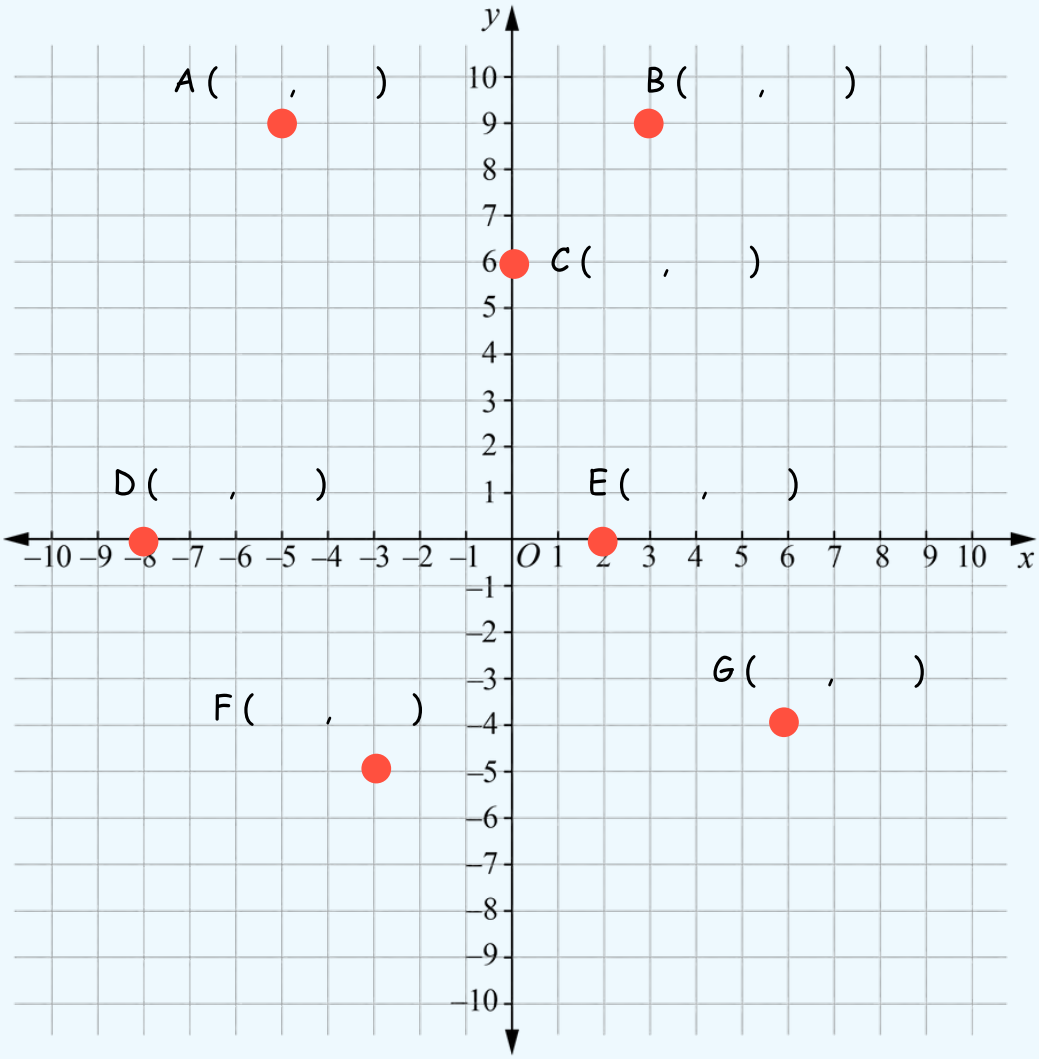


Points in Coordinate Plane

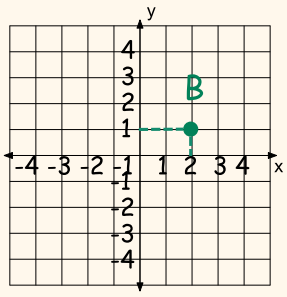
An ordered pair is a pair of numbers that represents a unique point in the coordinate plane. The first value is the x-coordinate and the second value is the y-coordinate, also can be written as **(x, y)**.



Find the coordinates of the point. (5 coins each)

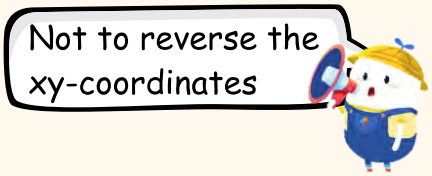


Attention!



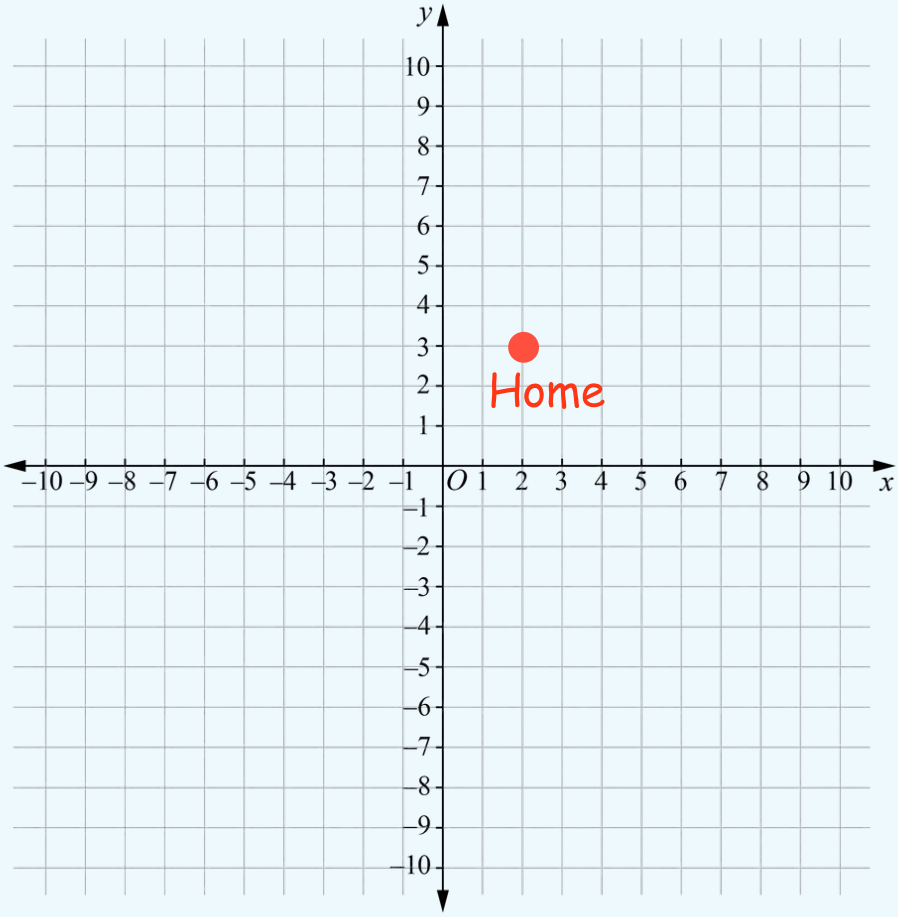
B (1, 2) ✗

B (2, 1) ✓



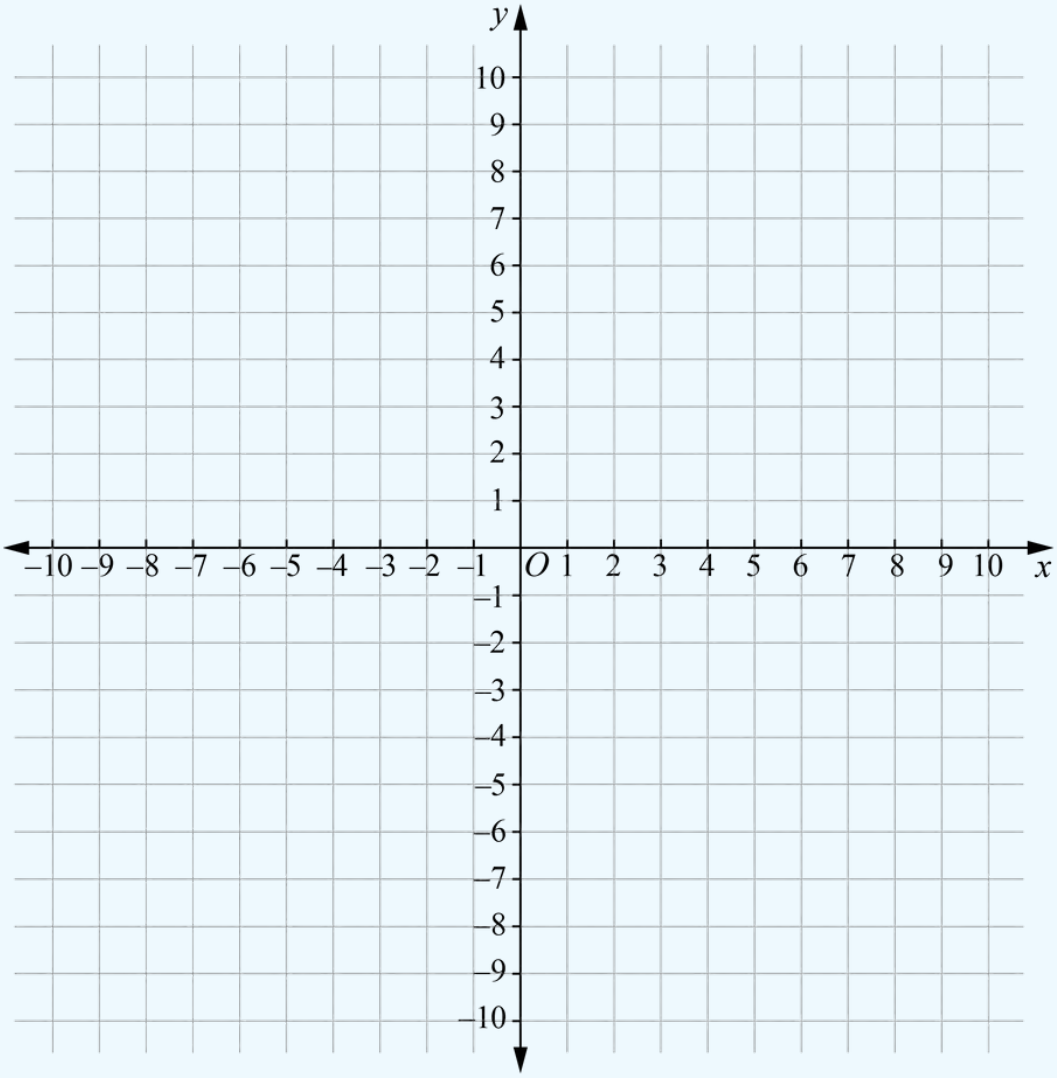
The coordinate plane is used for many real life applications, such as maps and data visualization. We can use points to represent a real life situation and plot on the coordinate plane.

Lisa lives at 2nd Avenue and 3rd Street, represented by (2, 3) on the graph. Her school is at 4th Avenue and 7th Street, represented by (4, 7) on the graph.



Coach John is tracking the soccer players' performance. Each ordered pair represents the number of goals and number of assists, respectively, from one player. (5 coins each)

Player 1: (3,4)
Player 2: (6,1)
Player 3: (9,6)
Player 4: (2,1)



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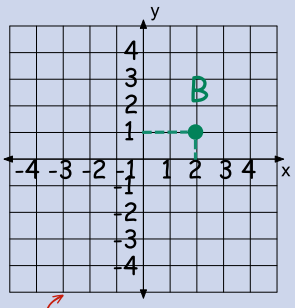
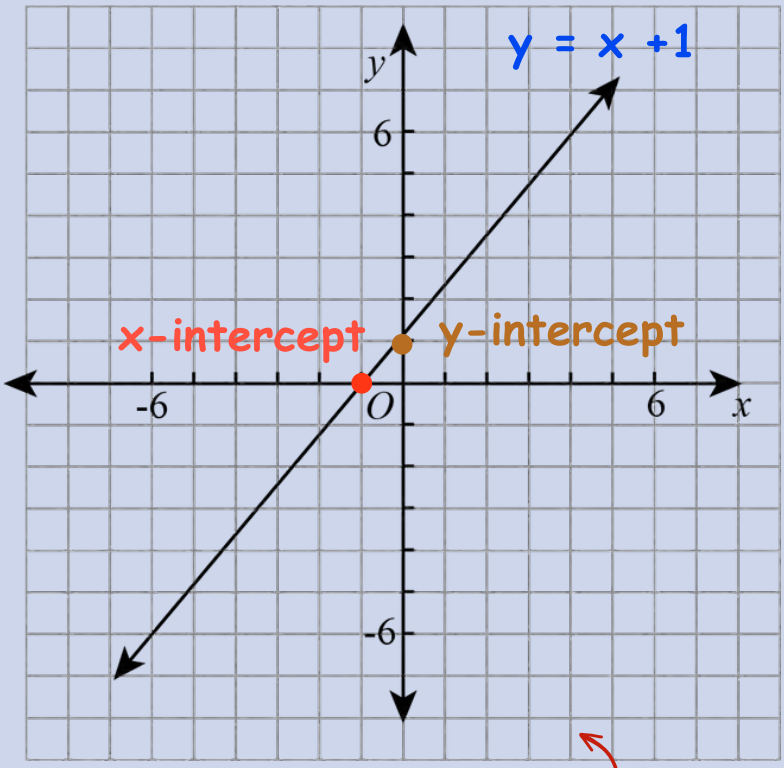
Bridge to Middle School

Points in the coordinate plane → Linear Equations

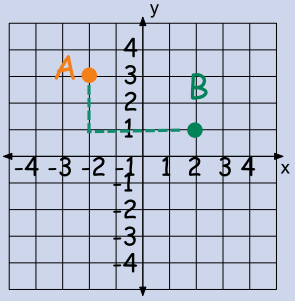


You have learned



You will learn in G8

Transformation of Points



A to B:
move down 2 units, and 4 units to the right

You will learn in G7

Whole number Answer

place value:

4,244,365 2 is in the millions place
523,349 3 is in the thousands place
51,632.41 4 is in the tenths place
72,981.103 3 is in the thousandths place

2000+100+24 = 2,124
3000+50+0.1 = 3,050.1
800+70+0.1+0.041 = 870.141

8060 = 8,000+60
6720.03 = 6,000+700+20+0.03
90320.78 = 90,000+300+20+0.78

place value pattern:

321,110 X 10 = 3,211,100
31.323 X 100 = 3,132.3
76.124 X 1000 = 76,124
25.272 X 10000 = 252,720
23,234.110 X 100 = 2,323,411

2,005 is 100 times as much as 20.05
6.01 is 10 times as much as 0.601
341 is 100 times as much as 3.41
4,717 is 1000 times as much as 4.717
4.1001 is 0.01 times as much as 410.01
73,600 is 100 times as much as 736
9,100.24 is 10 times as much as 910.024

Distributive Property

15 X 27 = 15 X (20 + 7) = 15 X 20 + 15 X 7 = 300 + 105 = 405
9 X 32 = 9 X (30 + 2) = 9 X 30 + 9 X 2 = 270 + 18 = 288
14 X 36 = 14 X (30 + 6) = 14 X 30 + 14 X 6 = 420+ 84 = 504
11 X 47 = 11 X (40 + 7) = 11 X 40 + 11 X 7 = 440 + 77 = 517
8 X 39 = 8 X (30 + 9) = 8 X 30 + 8 X 9 = 240 + 72 = 312
18 X 23 = 18 X (20 + 3) = 18 X 20 + 18 X 3 = 360 + 54 = 414
15 X 11 = 15 X (10 + 1) = 15 X 10 + 15 X 1 = 165
26 X 14 = 26 X (10 + 4) = 26 X 10 + 26 X 4 = 364
20 X 19 = 20 X (20 - 1) = 20 X 20 - 20 = 380
12 X 28 = 12 X (30 - 2) = 12 X 30 - 24 = 360 - 24 = 336
32 X 12 = 32 X (10 + 2) = 32X10 + 32 X 2 = 320 + 64 = 384
49 X 91 = 49 X (90+1) = 49 X 90 + 49 = 4459
57 X 51 = 57 X (50+1) = 57 X 50 + 57 = 2907
26 X 29 = 26 X (30 - 1) = 780 - 26 = 754

Multi-Digit Multiplication

57 X 9 = 513
85 X 7 = 595
21 X 3 = 63
42 X 8 = 336
37 X 5 = 185
4 X 69 = 276
46 X 3 = 138
21 X 9 = 189
71 X 5 = 355
6 X 19 = 114
76 X 18 = 1,368
95 X 26 = 2,470
79 X 15 = 1,185

123 X 13 = 1,599
85 X 16 = 1,360
47 X 24 = 1,128
127 X 13 = 1651
371 X 11 = 4081
62 X 15 = 930
723 X 16 = 11568
32 X 218 = 6976
25 X 196 = 4900
39 X 151 = 5889
13 X 420 = 5590
85 X 116 = 9860
97 X 104 = 10088

Division by 1-digit number

78 ÷ 5 = 15 R 3
56 ÷ 7 = 8
99 ÷ 8 = 12 R 3
72 ÷ 9 = 8
88 ÷ 3 = 29 R 1
25 ÷ 2 = 12 R 1
45 ÷ 4 = 11 R 1

123 ÷ 4 = 30 R 3
233 ÷ 6 = 38 R 5
236 ÷ 7 = 33 R 5
148 ÷ 5 = 29 R 3
456 ÷ 6 = 76
298 ÷ 8 = 37 R 2
772 ÷ 9 =85 R 7

Multi-Digit Division

632 ÷ 46 = 13 R 34
456 ÷ 38 = 12
123 ÷ 11 = 11 R 2
832 ÷ 29 = 28 R 20

739 ÷ 21 = 35 R 4
294 ÷ 18 = 16 R 6
272 ÷ 16 = 17
1456 ÷ 25 = 58 R 6

World Problem:

36 X 11 = 396. So they earned 396 dollars
63 X 13 = 819. The car will travel 819 miles in 13 hours
42 X 64 = 2,688. They got 2,688 dollars by selling backpacks.
85 X 18 = 1,530 The total weight would be 1530 pounds.
72 X 27 = 1,944 There were 1,944 gears.
56 X 3 = 168. There were 168 layers in total.
198 X 32 = 6,336. The school spent 6,336 dollars on calculators.
75 X 16 = 1,200. There are 1,200 flowers in total.

Decimals Answer:

Comparing and Order

0.0625, 0.125, 0.25, 0.5, 0.75
15.7, 15.705,15.72, 15.75,15.8
2.25, 2.5, 2.625, 2.75, 2.875
7.223, 15, 19.05, 37.1, 73.25, 327.99

Rounding Decimals

2.17
7
0.025
47.90
1.0
6.33
5.9
3.14
0.008

Adding Decimals

5.25+2.75 = 8
2.85 + 6.51 = 9.36
10.2 + 4.8 =15
34.2 + 9.1 = 43.3
0.75+0.25 = 1
0.98+0.13 = 1.11
7.8 + 2.345 = 10.145

4.2 + 7.171 = 11.371
6.123 + 0.9876 = 7.1106
9.239 + 0.1454 = 9.3844
9.14 + 8.14 = 17.28
4.99 + 4.11 = 9.1
54.9 + 7.3 = 62.2
38.2 + 5.8 = 44

Subtracting Decimals

16.2 - 2.55 = 13.65
5.12 - 1.69 = 3.43
19.2 - 2.7 = 16.5
163.1- 23.9 = 139.2
0.93-0.18 = 0.75
189.9 - 29.3 = 160.6
62.8 - 4.18 = 58.62
91.1- 52.31 = 38.79
96.41 - 23.236 = 73.174
23.39 - 11.44 = 11.95

Multiplying Decimals

4.5 X 2.6 = 11.7
1.2 X 8.4 = 10.08
0.14 X 2.36 = 0.3304
1.84 X 3.6 = 6.624
8.7 X 1.39 = 12.093
81.7 X 1.2 = 98.04
11.5 X 1.7 = 19.55
32.5 X 0.7 = 22.75
0.21 X 5.21 = 1.0941
12.1 X 4.2 = 50.82
7.24 X 0.14 = 1.0136
49.9 X 0.05 = 2.495
74.1 X 1.3 = 96.33
12.2 X 1.2 = 14.64

Dividing Decimals

72.8 ÷5 = 14.56
63.1÷5 = 12.62
122.9÷5= 24.58
109.3÷2= 54.65
88.2÷3= 29.4
96.3 ÷ 3 = 32.1
24.4÷ 4 = 6.1
88.1 ÷ 5= 17.62
23.3÷ 5= 4.66
39.02÷ 4 = 9.755
152.8 ÷ 5 = 30.56
53.1 ÷ 3 = 17.7
312.8÷ 4= 78.2
211.4 ÷ 2 = 105.7

Dividing Decimals

2.8 ÷ 0.5 = 5.6
3.75 ÷0.25 = 15
7.29÷ 1.5 = 4.86
8.64 ÷0.72 =12
15.3 ÷0.6 = 25.5
66.3 ÷0.3 = 221
34.4 ÷ 0.4 = 86

4.03 ÷ 2.6 = 1.55
10.04 ÷ 0.2 = 50.2
19.38 ÷10 = 1.938
1.93÷ 0.5= 3.86
8.68 ÷ 6.2 = 1.4
9.25 ÷ 2.5 = 3.7
15.08 ÷ 2.9 = 5.2

Distributive Property

1.5 X 2.3 -1.5 X 2.7 = 1.5 X (2.3+2.7) = 1.5 X 5 = 7.5
8.23 X 0.09 + 8.23 X 1.91 = 8.23 X (0.09+1.91) = 8.23 X 2 = 16.46
1.14 X 0.3 - 0.14 X 0.3 = 0.3 X (1.14 - 0.14) = 0.3 X 1 = 0.3
2.4 X 3.09 - 2.4 X 3 = 2.4 X (3.09 -3) = 2.4 X 0.09 = 0.216
3.4X 2.79 + 3.4 X 1.21 = 3.4 X (2.79 + 1.21) = 3.4 X 4 = 13.6
5.5X1.82 - 5.5 X 0.82 = 5.5 X (1.82- 0.82) = 5.5 X 1 = 5.5

Fraction Answer:

Simplest Form

$\frac{6}{9} = \frac{2}{3}$

$\frac{12}{16} = \frac{3}{4}$

$\frac{12}{24} = \frac{1}{2}$

$\frac{24}{42} = \frac{4}{7}$

$\frac{49}{63} = \frac{7}{9}$

$\frac{27}{36} = \frac{3}{4}$

$\frac{3}{9} = \frac{1}{3}$

$\frac{48}{96} = \frac{1}{2}$

$\frac{25}{35} = \frac{5}{7}$

$\frac{28}{7} = 4$

$\frac{64}{72} = \frac{8}{9}$

$\frac{36}{60} = \frac{3}{5}$

Adding with Like Denominator

$\frac{5}{7}$

$\frac{5}{8}$

1

1

$\frac{5}{4}$

$\frac{1}{2}$

Least Common Multiple

4 and 7 is 28
3 and 12 is 12
42 and 12 is 84
8 and 36 is 72
24 and 36 is 72
45 and 60 is 180

Adding with Unlike Denominator

$\frac{1}{4} + \frac{1}{3} = \frac{7}{2}$

$\frac{3}{4} + \frac{3}{8} = \frac{9}{8}$

$\frac{3}{10} + \frac{11}{25} = \frac{37}{50}$

$\frac{5}{12} + \frac{2}{15} = \frac{11}{20}$

$\frac{2}{3} + \frac{4}{5} = \frac{22}{15}$

$\frac{16}{21} + \frac{3}{14} = \frac{41}{42}$

$\frac{3}{8} + \frac{7}{12} = \frac{23}{24}$

$\frac{1}{20} + \frac{4}{15} = \frac{19}{60}$

$\frac{15}{16} + \frac{7}{12} = \frac{73}{48}$

$\frac{3}{8} + \frac{3}{12} = \frac{5}{8}$

Subtracting with Like Denominator

$\frac{4}{7} - \frac{3}{7} = \frac{1}{7}$

$\frac{12}{13} - \frac{4}{13} = \frac{8}{13}$

$\frac{8}{9} - \frac{5}{9} = \frac{1}{3}$

$\frac{4}{5} - \frac{3}{5} = \frac{1}{5}$

$\frac{11}{16} - \frac{7}{16} = \frac{1}{4}$

$\frac{17}{18} - \frac{5}{18} = \frac{2}{3}$

Subtracting with Unlike Denominator

$\frac{1}{2} + \frac{3}{7} = \frac{1}{14}$

$\frac{9}{13} + \frac{15}{26} = \frac{3}{26}$

$\frac{5}{8} + \frac{13}{24} = \frac{1}{12}$

$\frac{7}{9} + \frac{5}{12} = \frac{13}{36}$

$\frac{15}{14} + \frac{12}{21} = \frac{1}{2}$

$\frac{8}{15} + \frac{9}{20} = \frac{1}{12}$

$\frac{25}{32} + \frac{7}{24} = \frac{47}{96}$

$\frac{7}{9} + \frac{5}{12} = \frac{13}{36}$

$\frac{1}{6} + \frac{1}{12} = \frac{1}{12}$

$\frac{9}{20} + \frac{3}{10} = \frac{3}{20}$

Improper Fractions

$1\frac{1}{8} = \frac{9}{8}$

$2\frac{6}{7} = \frac{20}{7}$

$5\frac{1}{2} = \frac{11}{2}$

$2\frac{4}{13} = \frac{30}{13}$

$2\frac{8}{9} = \frac{26}{9}$

$\frac{27}{4} = 6\frac{3}{4}$

$\frac{43}{9} = 4\frac{47}{96}$

$\frac{54}{3} = 18\frac{13}{36}$

$\frac{18}{7} = 2\frac{1}{12}$

$\frac{123}{5} = 24\frac{3}{20}$

Adding Mixed Numbers

$2\frac{1}{2} + 1\frac{1}{3} = 3\frac{5}{6}$

$2\frac{3}{4} + 6\frac{1}{5} = 8\frac{19}{20}$

$2\frac{1}{5} + 1\frac{2}{5} = 3\frac{3}{5}$

$3\frac{1}{2} + 2\frac{1}{3} = 5\frac{5}{6}$

$\frac{1}{4} + 2\frac{1}{3} = 3\frac{1}{12}$

$2\frac{3}{4} + 2\frac{3}{8} = 4\frac{23}{30}$

$4\frac{3}{10} + 5\frac{11}{25} = 10\frac{13}{24}$

$\frac{5}{12} + 3\frac{2}{15} = 8\frac{1}{12}$

Subtracting Mixed Numbers

$6\frac{5}{7} - 2\frac{3}{7} = 2\frac{2}{7}$

$5\frac{3}{4} - 2\frac{5}{8} = 3\frac{1}{8}$

$6\frac{8}{9} - 4\frac{7}{12} = 2\frac{11}{36}$

$5\frac{1}{3} - 2\frac{1}{2} = 2\frac{5}{6}$

$5\frac{3}{4} - 2\frac{5}{8} = 3\frac{1}{8}$

$14\frac{11}{12} - 2\frac{7}{15} = 2\frac{9}{20}$

$8\frac{3}{4} - 3\frac{1}{2} = 5\frac{1}{4}$

$5\frac{3}{2} - 1\frac{1}{4} = 4\frac{5}{12}$

$12\frac{1}{5} - 4\frac{2}{3} = 7\frac{8}{15}$

$15\frac{3}{8} - 7\frac{1}{2} = 7\frac{7}{8}$

$20\frac{1}{4} - 9\frac{3}{4} = 10\frac{1}{2}$

$18\frac{3}{5} - 6\frac{1}{4} = 12\frac{7}{20}$

$14\frac{1}{2} - 5\frac{3}{4} = 8\frac{3}{4}$

$17\frac{2}{3} - 9\frac{1}{5} = 8\frac{7}{15}$

$22\frac{3}{4} - 11\frac{1}{3} = 11\frac{5}{12}$

$25\frac{2}{5} - 2\frac{3}{4} = 2\frac{13}{20}$

Exponent Answer:

Exponent

$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} = (\frac{1}{4})^4$

$3 \times 3 \times 3 \times 3 \times 3 = 3^5$

$\frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} = (\frac{2}{3})^4$

$6 \times 6 \times 6 \times 6 = 6^4$

$\frac{3}{11} \times \frac{3}{11} \times \frac{3}{11} \times \frac{3}{11} = (\frac{3}{11})^4$

$4^2 = 4 \times 4 = 16$
$2^4 = 2 \times 2 \times 2 \times 2 = 16$
$5^3 = 5 \times 5 \times 5 = 125$
$7^2 = 7 \times 7 = 49$
$9^3 = 9 \times 9 \times 9 = 729$
$3^4 = 3 \times 3 \times 3 \times 3 = 81$
$5^4 = 5 \times 5 \times 5 \times 5 = 625$
$4^5 = 4 \times 4 \times 4 \times 4 \times 4 = 1024$

Parentheses

$(8+12) \times 7 = 20 \times 7 = 140$
$7 \times (9+2) = 7 \times 11 = 77$
$2 \times (6+5) = 2 \times 11 = 22$
$21 - (7+9) = 21 - 16 = 5$
$8 \div (8-4) = 8 \div 4 = 2$
$36 \div (6 \times 2) = 36 \div 12 = 3$

Operations

$(12-8) \times 2 = 4 \times 2 = 8$
$4 \times (3+2) \div 6 = 4 \times 5 \div 6 = \frac{3}{10}$
$(44 \div 4)+(12-7) = 11+5 = 16$
$9 \times 6-(7+9) = 54-16 = 38$
$21 \div (9-6)+(7-2) = 7+5 = 12$
$6^2 \div (3 \times 2) = 36 \div 6 = 6$
$(4^3 \div 8)+(16-10) = 8+6 = 14$
$(7 \times 6-9)-(12+10) = 33-22 = 11$

$48 \div (18-6 \times 2) = 48 \div 6 = 8$
$9^2 \div (4 \times 2+1) = 81 \div 9 = 9$
$(9 \times 2-9)-(8+1) = 9-9 = 0$
$72 \div (16-6 \times 2) = 72 \div 4 = 18$
$(16+1-9) \div (2 \times 2) = 8 \div 4 = 2$
$(6 \times 5-4 \times 3) \div (7-1) = 18 \div 6 = 3$
$(32 \div 2-9)-(12-8) = 7-4 = 3$
$56 \div (17-3 \times 2-3) = 56 \div 8 = 7$

From Numbers

200, 300, 100n

Expressions

3 X 100 + 2 X 50 = 300 + 100 = 400 dollars
4 X 100 + 9 X 50 = 400 + 450 = 850 dollars
m X 100 + 9 X 50 = 450 + 100m dollars
m X 100 + n X 50 = 100m + 50n dollars
k - 3
x - 5
x + 3
$\frac{12}{x}$
2x - 7
9 - 4x
2 + 5x
9x + 3
9x + 8y
12x - 8y

From Numbers

15 - x = 7
x = 8. He gave 8 bags to John.

50 - x = 39.5
x = 10.5. He got 10.5 dollars back.

$x = 90 / 4.5$
$x = 20$. They worked for 20 days.

$326 + x = 518$
$x = 192$. The manager ordered 192 bags.

$x + 2x = 90$
$x = 30$.

$492 - x = 118$
$x = 374$

$2x + 1.4 = 20$
$x = 9.3$

$10 - 3x = 2.5$
$x = 2.5$

Geometry Answer

x,y-axis and quadrants

Quadrant 1
Quadrant 3
Quadrant 3
Quadrant 2
x-axis
y-axis
Quadrant 1
y-axis

points in coordinate plate

A(-5, 9)
B(3, 9)
C(0,6)
D(-8,0)
E(2,0)
F(-3,-5)
G(6, -4)

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