Rising 6th to 7th grader,

It is important to keep your math skills sharp. The attached packet was created to not only help you review 6th grade math skills but also help make the transition to 7th grade easier. To provide the maximum benefit, it would be best to complete one page (front/back) a week for 8 weeks of your choice over the course of the summer. I realize that things come up and some weeks it may not be possible to complete a page but there are more weeks in your summer than pages in this packet.

The material in this packet should be review and as such you should be able to complete almost all of the work independently.

The summer packet is due the first **full** day of school in August. Make sure to **document your thinking, work should be completed on these pages**. If you need more room, attach your work.

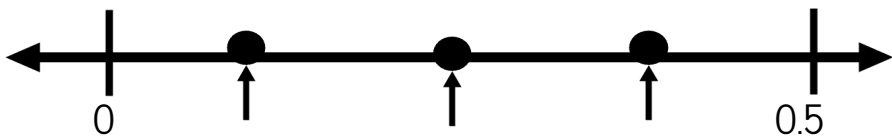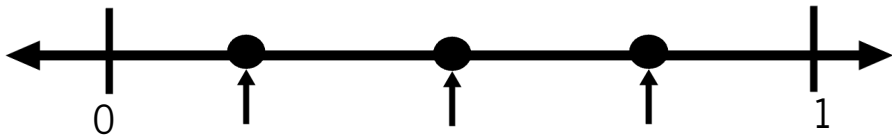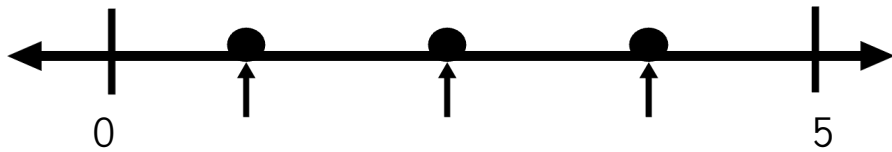Have a great summer!
Mrs. Woodard

Complete below:

Mathematician: _____

Please indicate how you completed your summer work:

_____ Independently

_____ Independently, with a little outside help

_____ Received help from parent/sibling/etc to complete

_____ Worked with a tutor to complete summer work

Name of tutor:_____

What's the point? Write the number next to each dot.

0   ↑   ↑   ↑   5

0   ↑   ↑   ↑   1

0   ↑   ↑   ↑   0.5

Number String - *Use what you know to answer:*

4 x 25	
8 x 25	
10 x 25	
15 x 25	
20 x 25	
19 x 25	

Sums & Products *Find a pair of numbers that add & multiply to the given numbers.*

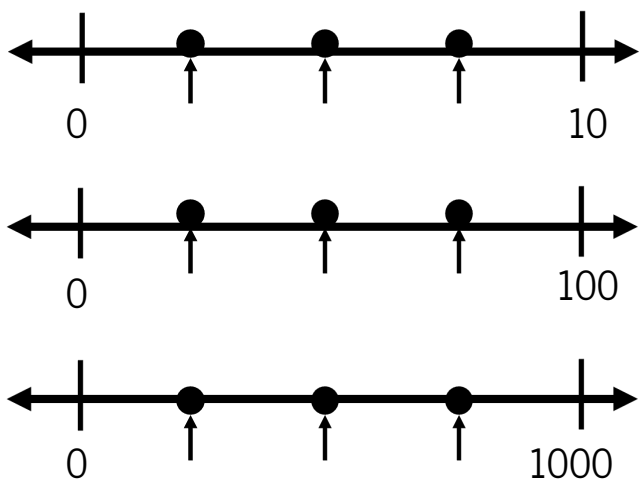| Sum of (+)	Product of(x)	
7	12	3 & 4
10	16	
15	54	
10	25	

Two Truths and a Lie
Select the one that is not true and explain your reasoning.

a.) The opposite of -2 is 2.

b.) The area of a triangle is base times height.
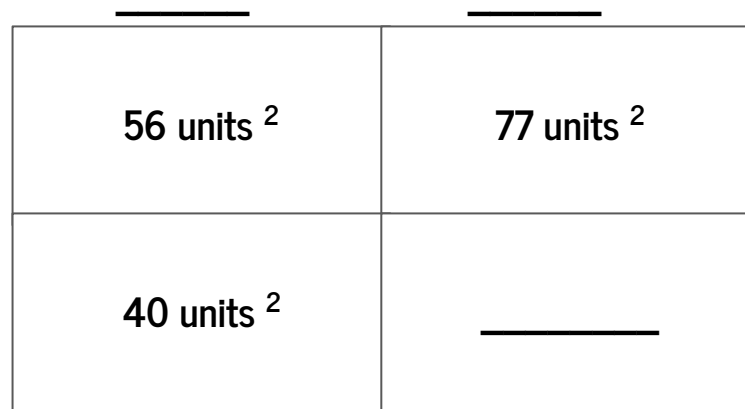
c.) The ratio 4:6 simplifies to 2:3.

Explain:

What's the point? Write the number next to each dot.

0   10

0   100

0   1000

Area Maze *Solve to find x. Not drawn to scale.*

	_____	_____
7 units	56 units ^{2}	77 units ^{2}
_____	40 units ^{2}	_____

Answer:

Find the pattern.   *Use the information to fill in the blanks.*

2	4		10		20	24		100	150	
3		9	24			45				600

Is it more or less than (0.5)   *Estimate and document how you know.*

6 x 0.02	13 - 0.9	87.1 - 86.9	11 ÷ 8.1
More Less	More Less	More Less	More Less

Is this the end?

Notice the number the arrow is pointing to. What are the endpoints?

2.5
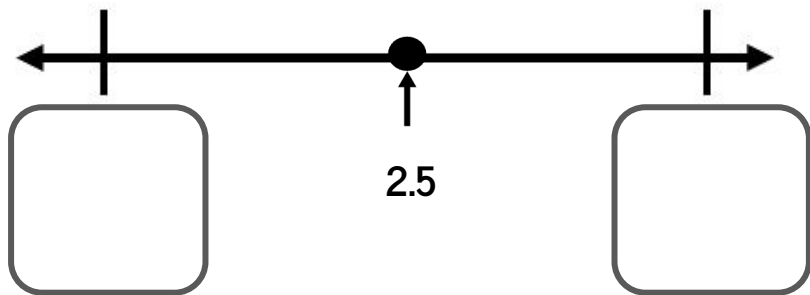
Explain why you picked those endpoints.

What it takes to make…

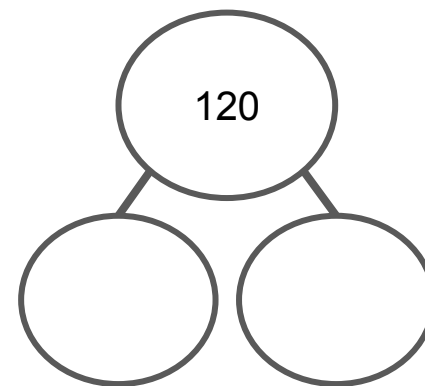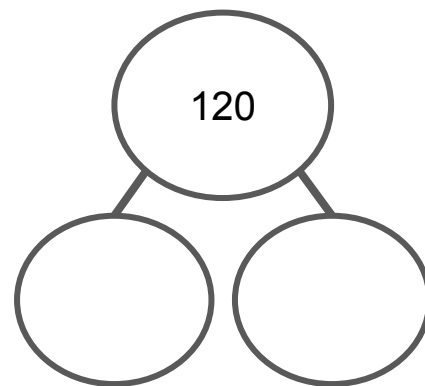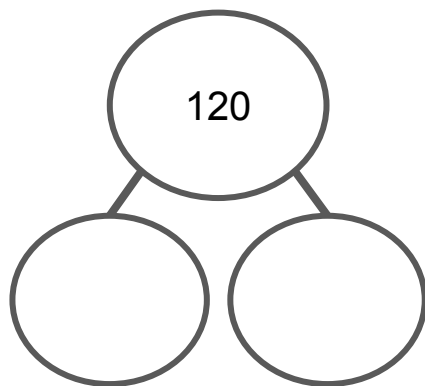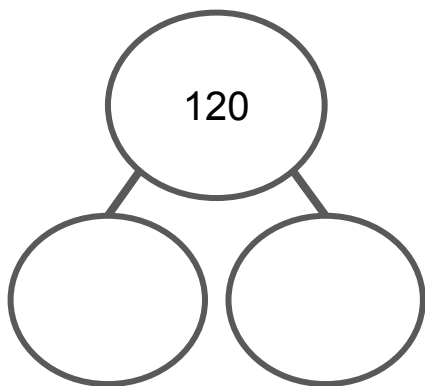*Select two numbers of the following numbers to make each statement true.*

2   3   7   9   12

A sum around 10:

An even product:

The smallest difference:

Broken Numbers - Using multiplication & division decompose the number given in different ways.

Two Columns - *Is column A or column B greater or is it too close to call? Use estimation to decide, circle the larger, if it is too close to call circle both.*

Column A	Column B
1389 - 497	219 + 687
19 x 7	21 x 8
700 ÷ 76	523 ÷ 25

Area Maze *Use what you know to figure out the missing parts. Figure not drawn to scale.*

4 units   _____

_____

36 units^2

5 units   _____

40 units^2
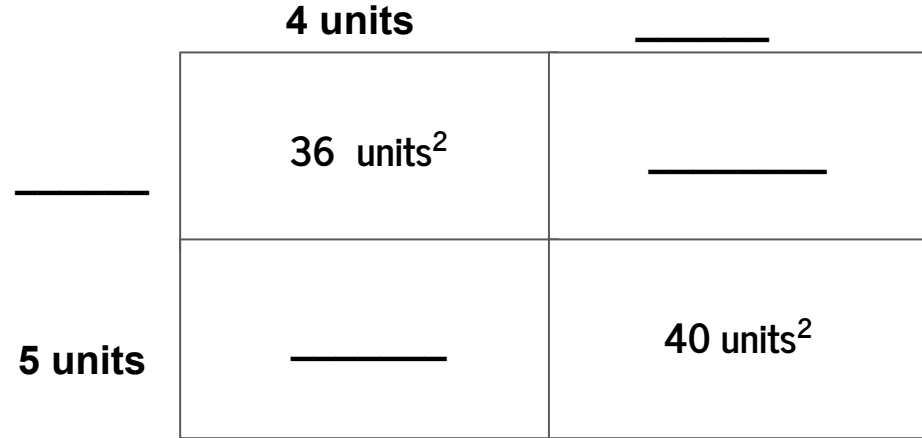
Decimal Arithmetics Add, Subtract, Multiply or Divide

3.24 + 5.6 =   4 - 2.61 =

32.5 x 0.7 =   31.5 ÷ 0.6

Ratios -

Select **all** the ratios that are equivalent to 8 : 6

A. 4 : 3

B. 6 : 8

C. 16 : 12

D. 10 : 8

E. 7 : 5

Fractions -

What is ½ of 60?

What is ¼ of 60?

What is ¾ of 60?

Sums & Products *Find a pair of numbers that add & multiply to the given numbers.*

Sum of (+)	Product of (x)	
5	6	
8	12	
9	8	
13	30	
20	100	

Number String - *Use what you know to answer:*

10 x 32	
5 x 32	
11 x 32	
20 x 32	
19 x 32	
25 x 32	
50 x 32	

Ratios - Complete the following ratios:

$3:4 =$ _____ $: 36$ $40:15 = 64:$ _____

$42:49 = 30:$ _____ $33:22 =$ _____ $: 14$

Fraction Arithmetic - Add, subtract, multiply or divide.

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

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

$\frac{3}{4} \times \frac{2}{5} =$ $4 \frac{1}{2} \times 2 \frac{1}{3} =$

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

## Fraction Arithmetic - Add, Subtract, Multiply or Divide

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

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

$\frac{5}{6} \times \frac{7}{8} =$

$3\frac{1}{3} \div \frac{2}{3} =$

Ratio - A mixture of purple paint contains 6 teaspoons of red paint and 15 teaspoons of blue paint. To make the same shade of purple paint using 35 teaspoons of blue paint, how much red paint would you need? Use the double number line diagram to help if needed.

red paint (teaspoons)

0   6

blue paint (teaspoons)

0   15
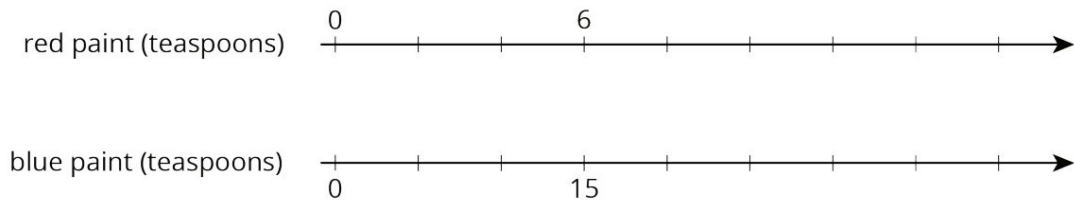
Fractions

What is ½ of 100?

What is ¼ of 100?

What is ¾ of 100?

Positive & Negative Numbers

Complete each statement below.

The opposite of -2 is _____.

The opposite of -3.4 is _____.

The opposite of $\frac{5}{4}$ is _____.

The opposite of 0 is _____.

What's the point?

0   0.6

0   0.8

0   0.9
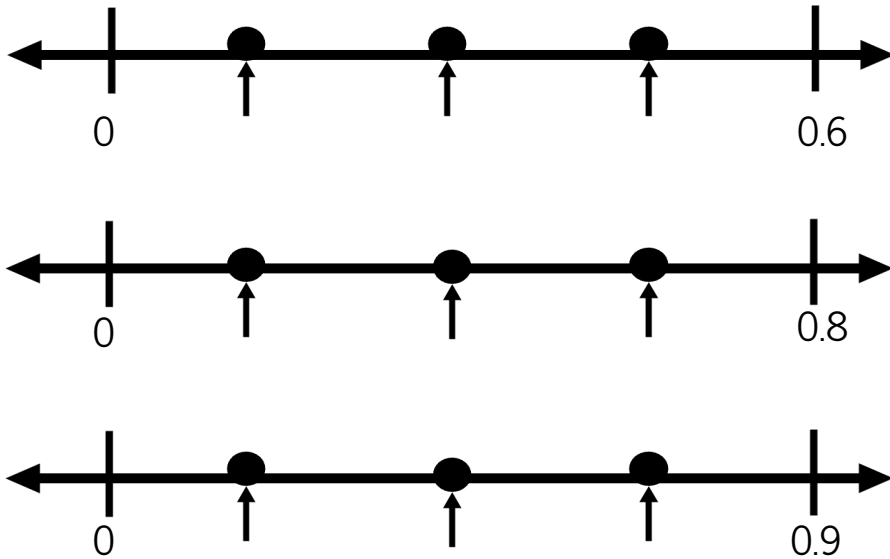
Number String - *Use what you know to answer:*

3 x 80	
3 x 3	
3 x 83	
23 x 2	
23 x 10	
23 x 12	

Sums & Products *Find a pair of numbers that add & multiply to the given numbers.*

Sum of (+)	Product of (x)	
11	24	
10	24	
25	24	
14	24	

Two Truths and a Lie
Select the one that is not greater than 50 and explain your reasoning.
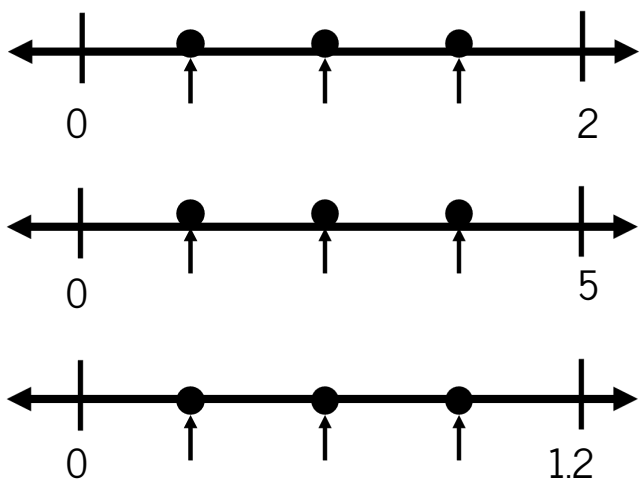
Greater than 50:

a.) ⅔ x 90

b.) ⅜ x 120

c.) ⅘ x 65

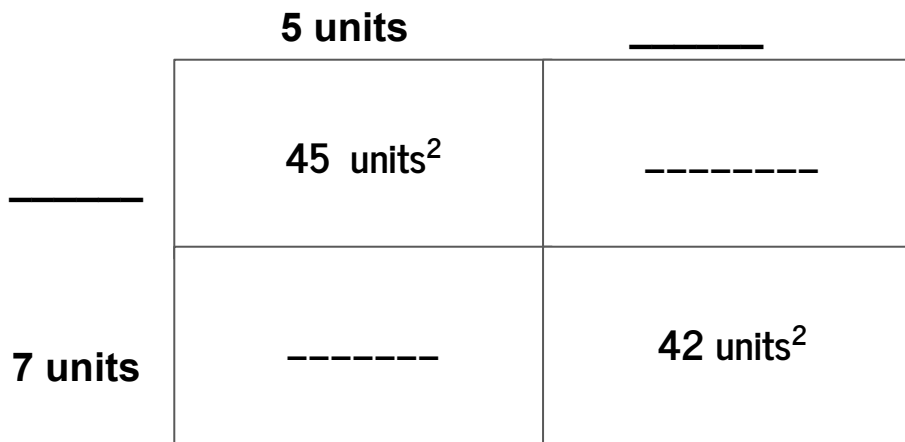*Explain:*

What's the point?

Area Model *Use what you know to figure out the missing parts. Figure not drawn to scale.*

5 units   _____

	45 units^2	- - - - - - -
7 units	- - - - - - -	42 units^2

_____

Find the pattern.   *Use the information to fill in the blanks.*

5	10	15		40		55		100	150	
6			24		54		72			660

Is it more or less than (0.5)   *Estimate and document how you know.*

4 x 0.5	2.9 - 2.09	0.26 + 0.251	6.1 ÷ 12.5
More **Less**	**More** **Less**	**More** **Less**	**More** **Less**

Is this the end?

Notice the number the arrow is pointing to. What are the endpoints?

¼
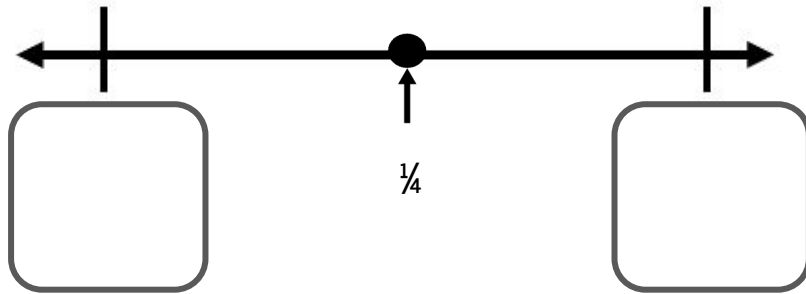
What is takes to make...

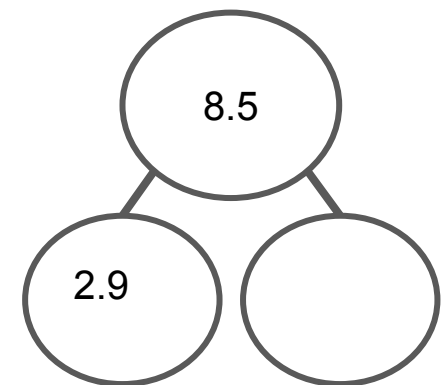*Select two numbers of the following numbers to make each statement true.*
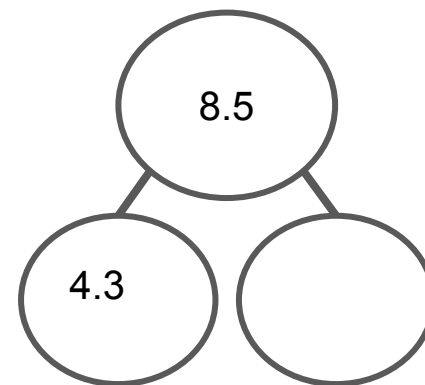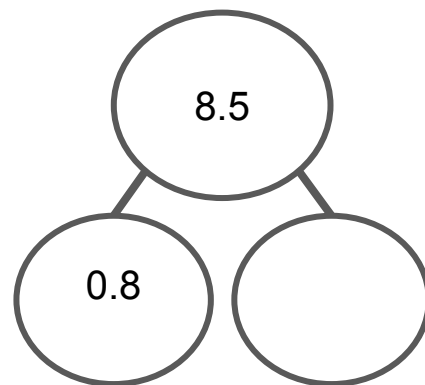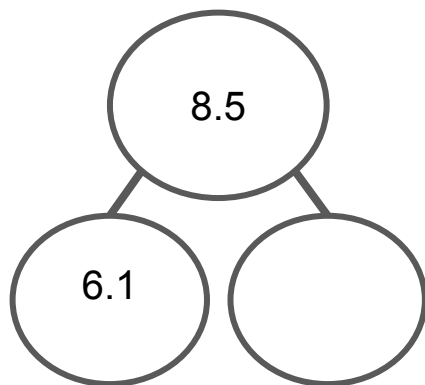
0.6   3.6   4.2   7.2   8

The smallest difference:

The biggest product:

The smallest quotient::

Broken Numbers - Using addition and subtraction, decompose the number given in different ways.

8.5

6.1

8.5

0.8

8.5

4.3

8.5

2.9

Two Columns - *Is column A or column B greater or is it too close to call? Use estimation to decide, circle the larger, if it is too close to call circle both.*

Column A	Column B
0.2 x 0.4	0.3 x 2
24.1 + 15.9	43.5 - 4.9
12.6 ÷ 2	3 ÷ 0.4

Ratio - The daily recommended allowance of vitamin C for a sixth grader is 45 mg. 1 orange has about ¾ of the recommended daily allowance of vitamin C. How many milligrams are in 1 orange? If you get stuck, consider using the double number line or tape diagram.

Switcharoo *Write the word problem that has the following number as the answer:*

> **5.5 ft**

Rate - While playing basketball, Ava's heart beat 80 times in 60 seconds. While running, her heart beat 21 times in 15 seconds. Which activity made Ava's heart beat faster? Explain your reasoning.

Completed::_____

Mathematician:_____

Sums & Products
Find a pair of numbers that add & multiply to the given numbers.

Sum of (+)	Product of (x)	
16	15	
16	28	
12	32	
15	36	
17	42	

Exponents: Simplify.

3^2 4^3

9^2 5^3

Number String - *Use what you know to answer:*

7 - 5.7	=1.3
7.1 - _____	=1.3
7.2 - _____	=1.3
6.2 - _____	=1.3
4.5 - _____	=1.3
3.1 - _____	=1.3
2 - _____	=1.3

Ratio - If there are 4 big dogs for every 3 little dogs at the dog park and you count 12 little dogs, how many big dogs would there be?

Rates - If you drive 25 mph for 2 hours, how far can your drive?

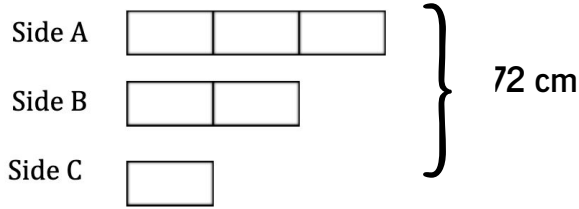## Is it more or less than (½)   *Estimate and document how you know.*

3 x ⅓		2 ¾ - 2 ½		¼ + ⅓		4 ÷ ½	
More	Less	More	Less	More	Less	More	Less

Fractions - Shade in one of the regions in this square. What fraction of the big square did you shade?
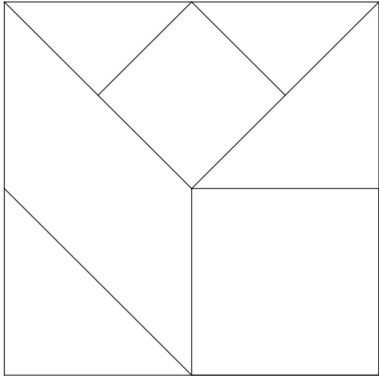
Explain.

**Ratios** - The sides of a triangle are in the ratio 3: 2: 1. If the perimeter (all the sides together) is 72 cm, find the length of each side.

Side A [| |]

Side B [|]   } 72 cm

Side C [ ]

A:_____   B: _____   C._____

GCF & LCM - Find the GCF and LCM for 24 & 40.

Geometry: Miles says the area of his rectangle is 20 cm^2. Cory says his triangle is also 20 cm^2. After looking at both shapes, Cory changes his mind, saying, "I forgot to do one thing." What do you have to remember about finding areas of triangles?

4 cm

5 cm

4 cm

5 cm
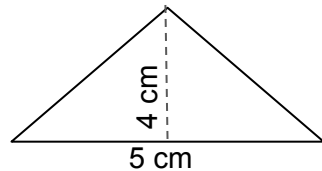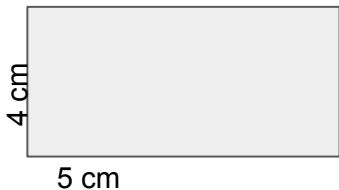
Positive & Negative Numbers - What positive or negative number is represented by each situation:
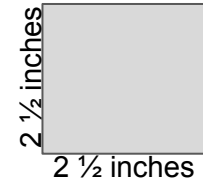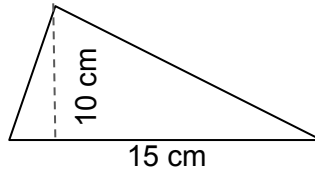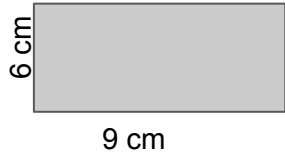
A loss of 5 yards on the football field: _____

A gain of $10: _____

20 feet below sea level: _____

You owe $15: _____

An increase of 20°: _____

Geometry: Find the area of the following shape (don't forget your units):

6 cm

9 cm

10 cm

15 cm

2 ½ inches

2 ½ inches

Exponents: Simplify.

2^4 5^3

8^2 10^3

Rates: If gasoline costs $3.00 per gallon and your car has a 16-gallon tank, how much will it cost to fill an empty tank?

Rates: If you drive at a constant speed of 50 mph for 5 hours, how far can your drive?

GCF or LCM: A red light blinks every 15 seconds, a white light blinks every 10 seconds. At the start of 10 minutes they both blink at the same time, how often will they blink together in that 10 minute time frame?

Decimal Arithmetic: Add, Subtract, Multiply or Divide.
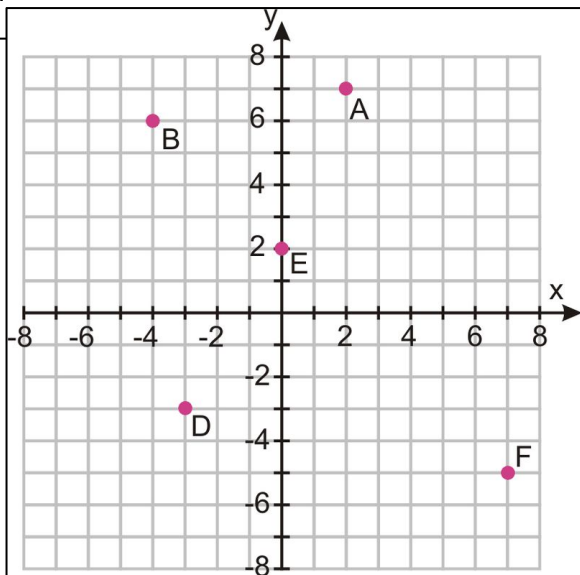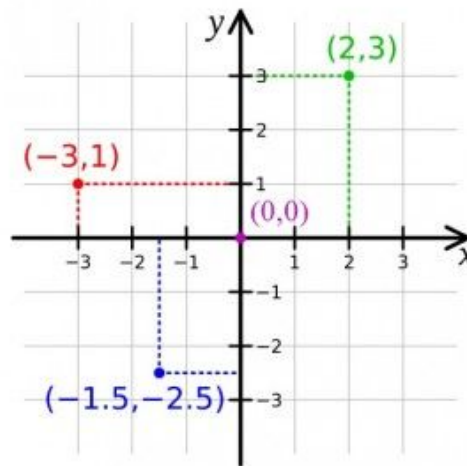
$4 \frac{2}{3} + 5 \frac{1}{4}$ $6 - 2 \frac{2}{5}$ $1.5 \bullet 0.8$ $1.2 \div 0.03$

Coordinate Plane: Remember, when you graph in a coordinate plane, use ordered pairs (x,y). The first number tells you how to move on the x-axis either left or right. The second number tells you how to move on the y-axis either up or down.

For example, look at the point (-3,1). -3 tell you to move left three from the origin (0,0) and then 1 tells you to move up one.
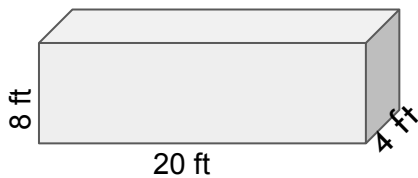
Use the coordinate plane to the left, to identify the coordinate for each point:

A (_____ ,_____) B (_____ ,_____)

C (_____ ,_____)   D (_____ ,_____)

E (_____ ,_____)   F (_____ ,_____)

Geometry: Volume= length x width height. Find the volume of the rectangular prism:

8 ft

20 ft

4 ft

Volume: _____ ft^3

Exponents: Simplify.

2^4 6^3 10^5

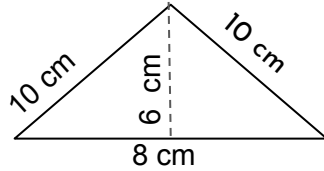**Decimal Arithmetic:** Add, Subtract, Multiple or Divide.

12.78 ÷ 0.9

3.2 • 5.08

8.9 - 4.98

14.56 + 3.67

Geometry: Find the area & perimeter of the following shape (remember units).

10 cm   6 cm   10 cm

8 cm
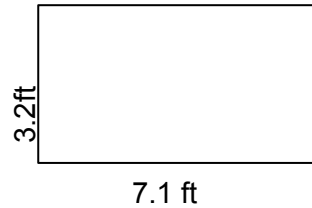
Area: _____   Perimeter: _____

Sums & Products: The product of the ages of two dogs is 156. The sum of their ages is 25. How old are the two dogs?

Ratio - A recipe calls for ½ cup of sugar and ¼ cup of cocoa. If you double the recipe, how much of each will you need?

Geometry: What is the perimeter of a square whose area is 144 cm^2?

Geometry: Find the area & perimeter of the following shape (remember units):

3.2ft

7.1 ft

Area: _____   Perimeter: _____

Fraction Arithmetic: Add, Subtract, Multiple or Divide.

3 ½ + 0.4

3 ½ - 0.4

3 ½ • 0.4

3 ½ ÷ 0.4