

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 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.

Please feel free to email me if you have questions about the content of this packet.

Have a great summer!

Mrs. Stirling

If you would like additional practice, please scan the QR codes below for additional resources:



Corresponding (linked) IXL skills for the concepts covered in this packet. You will have access to all IXL over the summer.



Math Enrichment Activities – a list of apps and websites with games and puzzles



Alcumus – an online program solving class. You will need a non-school email to sign-up (your parents can sign up for you). This uses a lot of MathCounts problems. This class will focus on pre-algebra problem solving. Fill out the form using the QR code & Mrs. Stirling will send you an invitation link.

Something different? Try the board game Prime Climb. This link will take you to the developer's website with instructions and a link to shop. It is also available from Amazon.



Complete:

Mathematician: _____

Select that statement that best matches your understanding of the material in the summer packet:

- _____ I could recall with ease most of the information in the summer packet.
- _____ I could recall with some review (or help) most of the information in the packet.
- _____ I needed to review (or need help with) most of the mathematics in the packet.

Summer Work Enriched to Pre-Algebra #1

Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

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

2.) $6.8 + 7.9 =$

3.) $35.92 \div 8 =$

4.) $\frac{3}{5} \div \frac{1}{10} =$

5.) $-5 + -17 =$

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

7.) $-30 \div 3 =$

8.) $\frac{5}{9} \cdot \frac{3}{10} =$

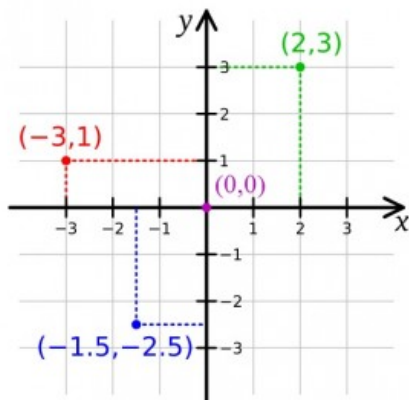
9.) $5.6 \cdot 8.3 =$

10.) Fill in the chart:

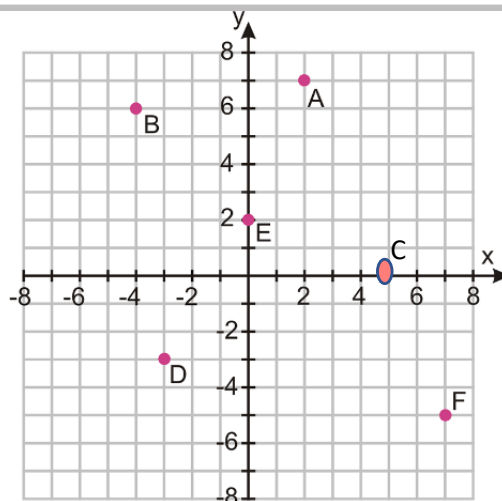
Find:	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{6}$	$\frac{1}{8}$	$\frac{1}{9}$	$\frac{1}{12}$
72							

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.



12.)



Use the coordinate plane to identify the coordinates for each point:

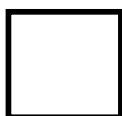
A (____, ____) B (____, ____) C (____, ____)

D (____, ____) E (____, ____) F (____, ____)

Perimeter is the distance around a shape in units. Area is the amount of space inside measured in square units. Calculate the area and perimeter of each of the following squares:



7 cm



13 cm

What would be the perimeter of a square with an area of 36 cm^2 ?

Summer Work Enriched to Pre-Algebra #2 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $-4 - 5 =$

2.) $0.5 \cdot 3.6 =$

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

4.) $4\frac{3}{5} + 2\frac{3}{4} =$

5.) $\frac{3}{10} - \frac{1}{5} =$

6.) $0.0936 \div 0.2 =$

7.) $5.25 - 3.87 =$

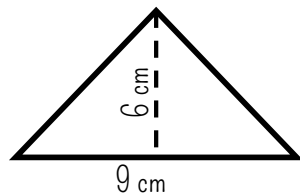
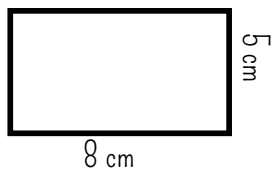
8.) $-12 \cdot 6 =$

9.) Solve the equation using properties of equality.
 $x + 13 = 27$

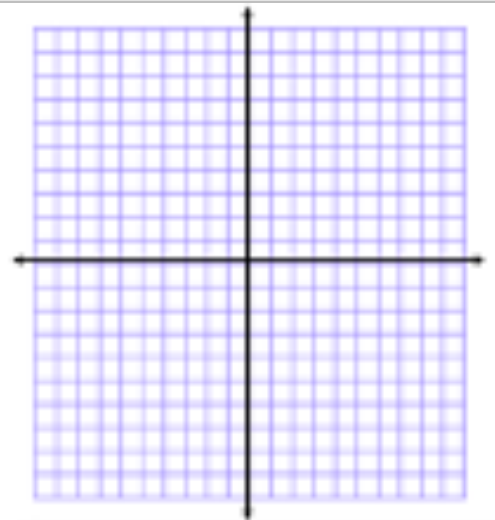
10.) Complete the table using the ratio 3 to 4.

3	6		21	27		51
4		12			36	

11.) Find the area of the following shapes (don't forget units):



12.)



13.) A candle 25 cm tall burns at a rate of 5 cm per hour. After 2.5 hours, how tall is the candle?

Graph & label the following ordered pairs:

A(-5,6) B(4,-2) C(0,-7) D(-8,-9) E(7,8)

Bonus: I am 13 years old, and my coach is 31 years old, which is my age with the digits reversed. What is the fewest number of years in which the digit of our ages will be reversed again?

Summer Work Enriched to Pre-Algebra #3 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $1\frac{3}{5} \div 2\frac{1}{2} =$

2.) $13.45 + 17 =$

3.) $\frac{7}{8} \cdot \frac{4}{5} =$

4.) Solve the equation using properties of equality.
 $x - 15 = 31$

5.) $5 \div 8 =$

6.) $70 - 16.95 =$

7.) $60.48 \div 7 =$

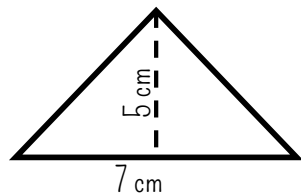
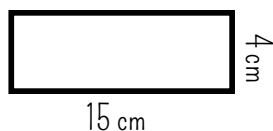
8.) $0.58 \cdot 0.102 =$

9.) $\frac{5}{6} - \frac{3}{8} =$

10.) Fill in the chart:

Find:	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{8}$	$\frac{1}{10}$	$\frac{1}{12}$
120								

11.) Find the area of the following shapes (don't forget units):

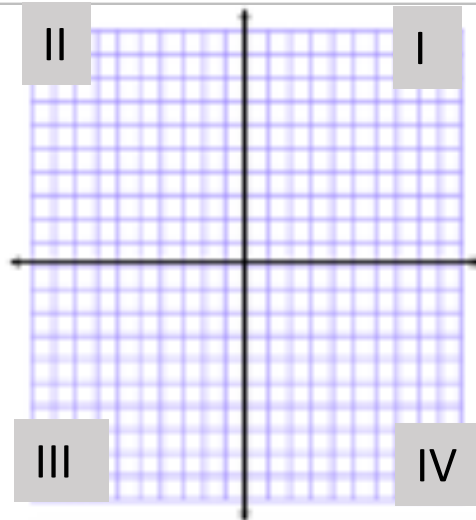


13.) During a basketball game, Joe scored half of the points, Frank scored a third of the points and Ben scored the remaining 6 points. How many points were scored in the game?

12.)

The quadrants are labeled.

Graph a point in each quadrant and label its coordinates below:



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

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

Bonus: If it takes 24 seconds to write a tweet and 8 seconds to send it, what is the greatest number of Tweets that can be written and sent in 6 minutes?

Summer Work Enriched to Pre-Algebra #4 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $-16 + -9 =$

2.) $8\frac{5}{12} - 3\frac{2}{3} =$

3.) $0.2 \div 5 =$

4.) $4.8 - 2.904 =$

5.) $-42 \div -3 =$

6.) $8\frac{3}{4} \cdot 3\frac{1}{9} =$

7.) $2\frac{5}{8} \div 7 =$

8.) $0.1456 \div 0.08 =$

9.) Solve the equation using properties of equality.

$$5x = 75$$

10.) Complete the table using the ratio 5 to 6.

5	15		25			75
6		24		42	78	

11.) After 12 minutes on a stair-stepper, William has burned 210 calories. At the same rate, what is the total number of calories William will burn in a 20-minute workout?

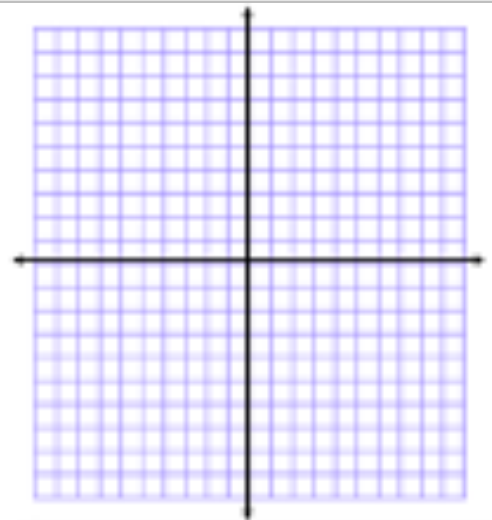
12.) The ratio of girls to boys in the 7th grade at Hypatia Middle School is 3:2. There are 134 boys in the 7th grade. What is the total number of students in the 7th grade at Hypatia Middle School?

13.) The fuel tank in Alexa's care holds 15 gallons of gas. How many gallons of gas does she have when her tank is $\frac{1}{4}$ full?

12.) Draw a square that is only in two quadrants, label the vertices A, B, C & D.

Find the area of the square.

Area =



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

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

Bonus: If a professional blender operates a rate of 24,000 revolutions per minute, how many seconds will it take the blender to complete 100 revolutions? Express your answer as a common fraction.

Summer Work Enriched to Pre-Algebra #5 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $-13 - (-6) =$

2.) Solve the equation using properties of equality.
 $\frac{x}{4} = 12$

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

4.) $15\frac{1}{5} - 7\frac{1}{4} =$

5.) $4.86 \cdot 3.7 =$

6.) $0.58 + 4.3 =$

7.) $3\frac{1}{2} + 5\frac{1}{4} =$

8.) $-36 \div 3 =$

9.) $\frac{7}{10} \cdot \frac{2}{3} =$

10.) Fill in the chart:

Find:	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{6}$	$\frac{1}{8}$	$\frac{1}{9}$	$\frac{1}{12}$
144							

11.) What is the positive difference between the value of $-2 \cdot (3 + 4)$ and $2 \cdot 3 + 4$?

12.) A recipe requires three cups of flour and two eggs to make eight servings of cake. How many cups of flour are needed to make 20 servings of the same cake? Express your answer as a decimal to the nearest tenth.

13.) A pound of blueberries cost \$3.98 and a pound of strawberries cost \$2.49. What is the combined cost of a pound of each?

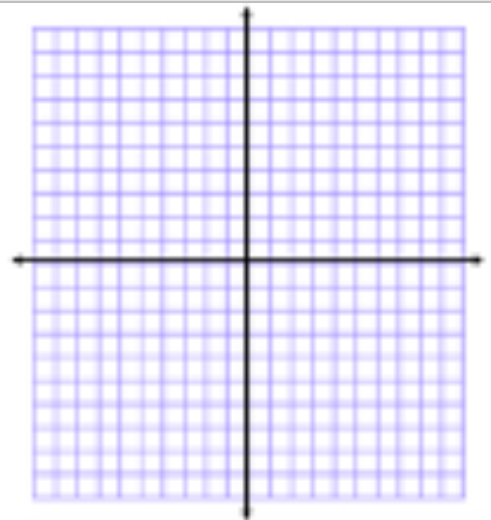
12.) Draw a parallelogram that is only in two quadrants, label the vertices A, B, C & D.

Find the area of the parallelogram.

Area =

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

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



Bonus: On Sunday, the low temperature in Fargo was -6°C . Each day after that, the daily temperature rose 2°C . In degrees Celsius, what was the low temperature in Fargo, on Friday of that week?

Summer Work Enriched to Pre-Algebra #6 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $5\frac{1}{2} \cdot \frac{4}{9} =$

2.) $-13 + 25 - (-18) =$

3.) Solve the equation using properties of equality.
 $x + 2\frac{1}{2} = 12$

4.) $\frac{12}{13} \div 1\frac{1}{5} =$

5.) $9\frac{1}{4} - 4\frac{5}{6} =$

6.) $15.1 - 12.45 =$

7.) $30.24 \div 0.06 =$

8.) $5\frac{3}{4} + 2\frac{1}{5} =$

9.) $-14 \cdot 5 =$

10.) Complete the table using the ratio 4 to 6 (it might be helpful to simplify the ratio).

4	8		10		60	
6		18		27		84

11.) The ratio of the the three sides of a triangle is 3:1:2. If the perimeter of the triangle is 36 cm, what is the length of each of the sides?

13.) You are creating a rectangular dog run, using 20 feet of fence, which would give you the biggest area for your dog:

- A 2 foot by 8 foot
- A 3 foot by 7 foot
- A 4 foot by 6 foot
- A 5 foot by 5 foot

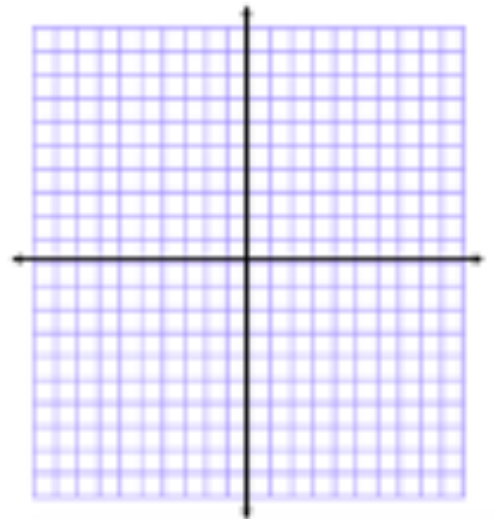
Explain why that shape would give you the most area.

12.) Draw a pentagon that is in at least two quadrants, label the vertices A, B, C, D & E

Find the area of the pentagon

Area =

A (____, ____) B (____, ____) C (____, ____)
D (____, ____) E (____, ____)



Bonus: Sam can choose how he gets paid for a job. He can be paid \$1,000 all at once, or he can earn \$1 for the first day, \$2 for the second, \$4 for the third, and so on, so that each day's pay is double that of the previous day. What is the positive difference of the total amounts Sam can be paid for completing a ten-day job, based on these two compensation plans?

Summer Work Enriched to Pre-Algebra #7 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $-17 - 19 =$

2.) $6\frac{3}{4} \cdot 3\frac{1}{9} =$

3.) $3.768 \div 1.2 =$

4.) Solve the equation using properties of equality.
 $2x = 35$

5.) $13.8 + 21.97 =$

6.) $6\frac{5}{6} - 5\frac{5}{12} =$

7.) $2\frac{1}{4} \div 3\frac{5}{6} =$

8.) $0.67 \cdot 1.2 =$

9.) $-3 \cdot 6 + (-5) =$

10.) Fill in the chart:

Find:	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{8}$	$\frac{1}{10}$	$\frac{1}{20}$
400						

11.) On a road trip the average speed is 50 mph. For every two hours Joe drives, Bill drives three hours. If the road trip is 20 hours long, how many more miles did Bill drive than Joe?

12.) If I can buy 12 cans of soda for \$4.99, what is the price per can? Round your answer to the nearest penny.

13.) There are 24 students in a class, if half of the boys and a third of the girls are finished with their work. What information would you need to know to determine how many students are not finished with their work?

12.) Draw a rectangle that is in all four quadrants, label the vertices A, B, C & D.

Find the area of the rectangle.

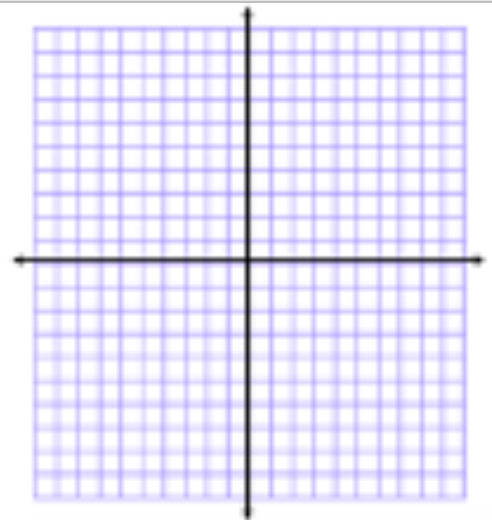
Area =

A (____, ____)

B (____, ____)

C (____, ____)

D (____, ____)



Bonus: What is the product of the GCF (Greatest Common Factor) and LCM (Least Common Multiple) of 4 and 10?

Summer Work Enriched to Pre-Algebra #8 Mathematician: _____

Add, subtract, multiply or divide. Simplify if possible. Document your thinking.

1.) $-21 \div -3 + (-15) =$

2.) $-31 + 57 =$

3.) $12 - 8\frac{3}{4} =$

4.) $1.2 - 0.987 =$

5.) $9\frac{3}{4} \cdot \frac{3}{5} =$

6.) $5.1 \cdot 3.14 =$

7.) Solve the equation using properties of equality.
 $\frac{x}{5} = 11$

8.) $7\frac{1}{2} \div 1\frac{1}{4} =$

9.) $0.1353 \div 0.03 =$

10.) Complete the table using the ratio 8 to 12 (it might be helpful to simplify the ratio).

8	4	12		30		48
12			36		54	

11.) Leah collected 2,400 grams of pennies in a fundraiser. Each penny has a mass of 2.5 grams. How much money did Leah raise?

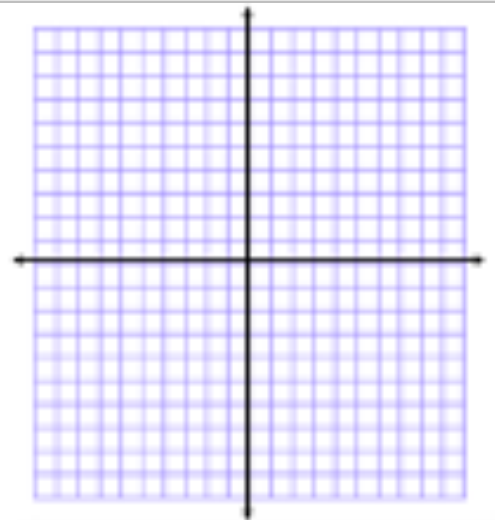
12.) The ratio of the number of dogs to cats in a neighborhood is 4 to 3. If there are 28 dogs in the neighborhood, how many cats would you find in the neighborhood?

13.) What is the sum of all the whole number factors of 21?

12.) Draw a trapezoid that is in at least two quadrants, label the vertices A, B, C, & D.

Find the area of the trapezoid.

Area =



A (____, ____) B (____, ____)

C (____, ____) D (____, ____)

Bonus: Sammy goes the store and buys \$1.80 worth of produce. He gives the clerk a \$5 bill and receives change consisting of only quarter, dimes, nickels and pennies. What is the greatest number of quarters he could receive?