Math Summer Packet for

Rising 7th Grade Panthers

Entering Math 7

Dear future 7th grader,

This packet is designed to help you stay fresh on the math you have learned so far. Please complete one page per week of summer break. If you forgot how to do the mathematics, please use the links provided to help refresh your memory. If you see this symbol , please try to solve the problem without a calculator. If you do not see that symbol, you may use a calculator. Please show any work that you do.

Name

Elementary School
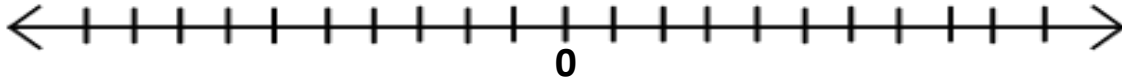
Week 1

Topic: Integers and Exponents

1. Place each integer below on the number line below and label each one with their letter.

    a. -10   **b.** 5   **c.** -1   **d.** 10

Compare the following integers using >, <, or =.

2. -14 _____ 14   3. -4 _____ -8   4. 0 _____ -10

What whole number is equal to each square number below?

5. $5^2 =$ _____   6. $9^2 =$ _____   7. $4^2 =$ _____

8. Circle the numbers below that are perfect squares. Go to the website below if you want a reminder about perfect squares.

    http://www.mathwarehouse.com/arithmetic/numbers/what-is-a-perfect-square.php

     1   4   7   12   15   16   25   42   49   64   75   81   100

Evaluate each power of 10 based upon the pattern shown in the table.

Power of 10	As a repeated factor	Standard form
10^1	10	10
10^2	10 x 10	100
9. 10^3		
10. 10^4		

Week 2

Topics: Expressions, exponents, & Multiplying and Dividing whole numbers

Simplify the following expressions using the order of operations (PEMDAS):

1. $5 + 10 \cdot 2$

2. $7^2 - 4 + 5$

Evaluate the following exponents:

3. 4^4

4. 10^6

5. 5^3

Evaluate the following:

(Reminder of long division: https://www.youtube.com/watch?v=JCq1XFDVZA4)

6. 123 x 52

7. $987 \div 3$

Topic: Rational Numbers - Ordering fractions alone and on a number line, Ordering decimals, +, -, x, ÷ rational numbers (fractions only), Comparing rational numbers and place value.

1. Place the following numbers in order from least to greatest.

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

2. Order the following fractions on the number line below. $\frac{1}{2}, \frac{3}{4}, \frac{1}{5}, \frac{7}{8}$

0   1

Solve the following problems in the space provided showing all of your work.

3. $10\frac{3}{4} + 9\frac{1}{12}$

5. $\frac{4}{9} \div \frac{2}{3}$

4. $\frac{7}{12} \times \frac{3}{5}$

6. $7\frac{1}{2} - 3\frac{3}{4}$

Solve each equation for the value of x.

(For a reminder about solving equations: https://www.youtube.com/watch?v=VidnbCEOGdg)

1.   x + 18 = 23

3.   20x = 100

2.   x − 55 = 77

4. $\frac{x}{6} = 420$

5.   Thai has 5 more dollars than Kyle. Thai has $25. How much money does Kyle have?

Week 5

Topic: Solutions to and graphing inequalities, & Add, subtract, multiply, divide decimals
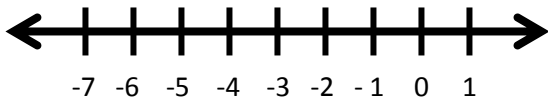
For reminder about multiplying decimals: https://www.youtube.com/watch?v=JEHejQphIYc

For reminder about dividing decimals: https://www.youtube.com/watch?v=Nqts8zW8RxM

1. $16.124 \div 0.02 =$

2. $72.9 \times 3.5 =$

Graph the following inequalities on the number line provided.

●: is used for ≥ or ≤

○: is used for > or <

STEPS:

1st – Dot

2nd – Direction

3rd – Arrow

Draw an arrow to the left or right to represent all values for the variable.
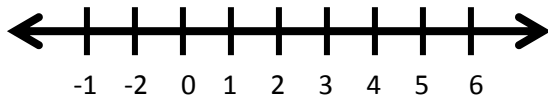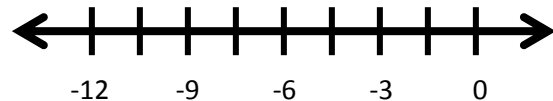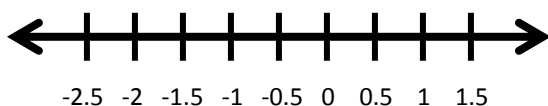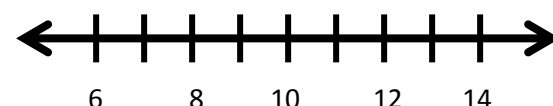
3.   Graph: $x \geq -3$

-7 -6 -5 -4 -3 -2 - 1   0   1

4.   Graph: $4 \geq x$

-1 -2   0   1   2   3   4   5   6

6.   Graph: $-3 \leq x$

-12   -9   -6   -3   0

5.   Graph: $x > -2$

-2.5 -2 -1.5 -1 -0.5 0   0.5   1   1.5

7.   Graph: $x < 7$

6   8   10   12   14

Week 6

1. What are the next three terms in the sequence?

$$81, \ 27, \ 9, \ \underline{\hspace{1.5cm}}, \ \underline{\hspace{1.5cm}}, \ \underline{\hspace{1.5cm}}$$

2. What number is used to get to the next term in the sequence?

$$21, \ 28, \ 35, 42, \ \ldots$$

For a reminder about graphing points on a coordinate plane:
http://www.virtualnerd.com/tutorials/?id=Alg1_9_1_1

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3. Graph each ordered pair below on the coordinate plane. Label each point with its letter:

A(4, 2)   B(4, -1)   C(-3, -4)

D (-2, 5)   E(0, -3)   F(6, 0)

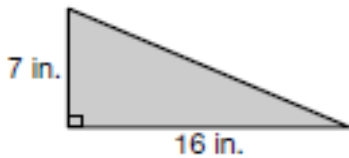**4.** Name the coordinates of each point.

G (,   )

H (,   )

J (,   )
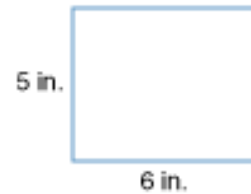
K (,   )
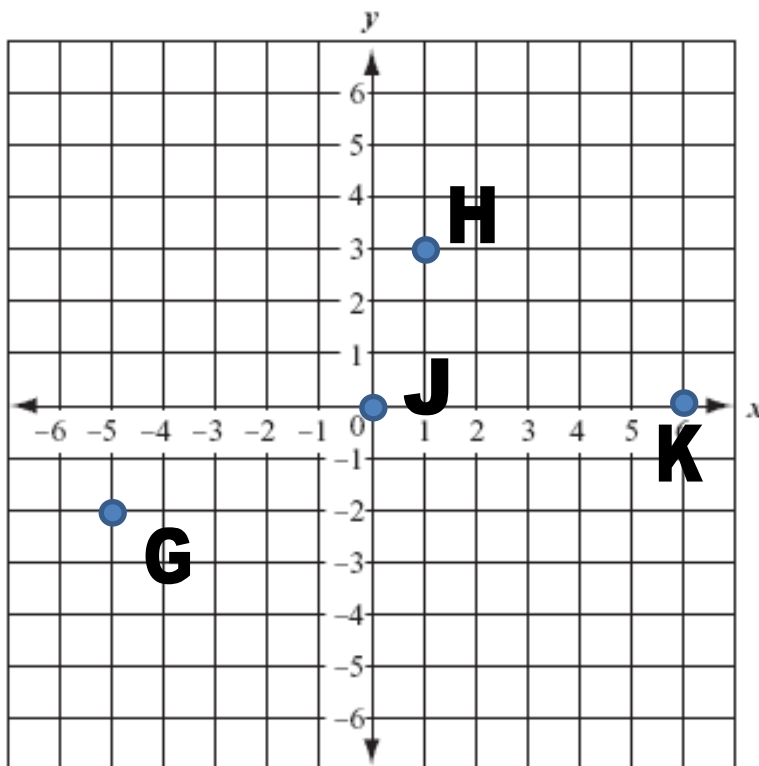
Week 7

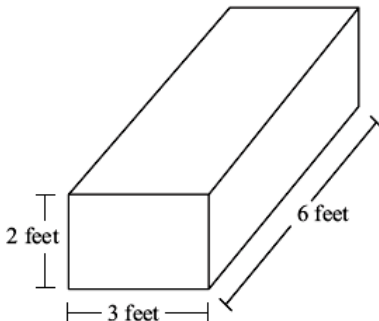**1)** Find the area of the circle using the formula $A = \pi r^2$.
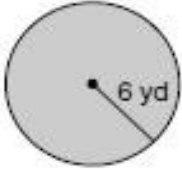
2) Use the formula $A = \frac{1}{2}bh$ to find the area of the triangle.

3) Find the perimeter of the rectangle shown at right.

4) Use the formula *SA = 2lw + 2lh + 2wh* to find the surface area of the rectangular prism.
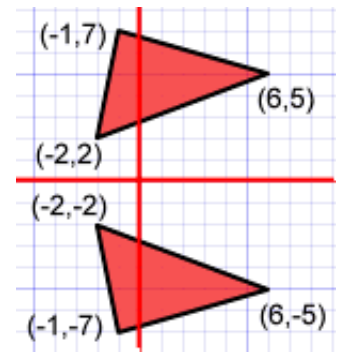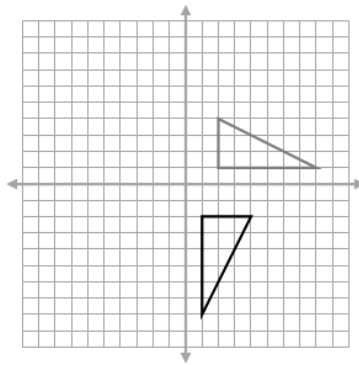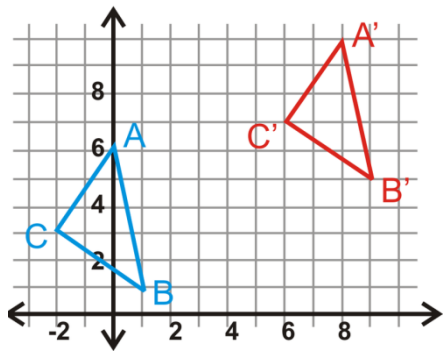

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Week 8

Topic: Identifying transformations & Geometry, Probability and Statistics

Look at the four transformations below to complete #1-4.

1. Place a smiley above the rotation.

2. Place a box above the reflection.

3. Place a star above the translation.

For a reminder about line plots:
 http://www.wikihow.com/Make-a-Line-Plot

4. Create a line plot for the data below.

Number of Pets over a Lifetime
5, 0, 9, 2, 2, 4, 5, 3, 1, 0, 0, 17, 15, 2, 4, 3, 12, 15, 0, 5

CONTINUE

5. The line graph below shows the heights of a growing marigold plant from Monday to Saturday. What would you predict to be the height of the plant the next day (Sunday)?

The height of a growing marigold plant(in mm)
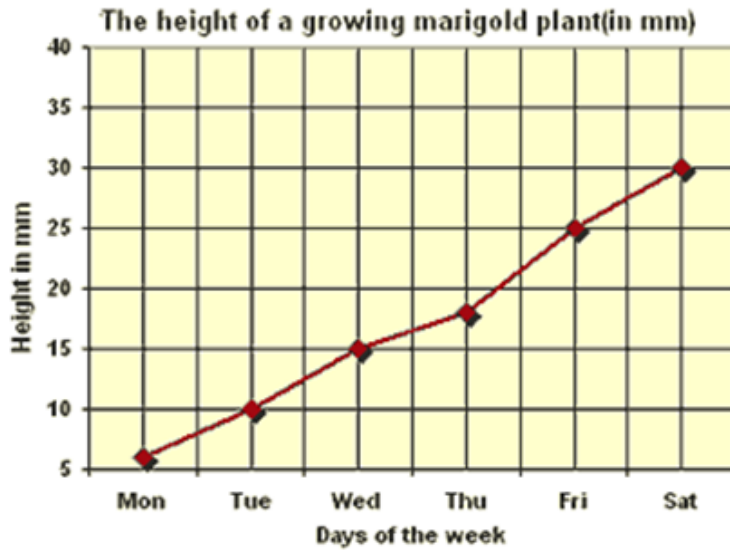
For a reminder about probability:
https://www.ck12.org/probability/Probability-of-Compound-Events/lesson/Calculating-Probabilities-of-Combined-Events/?referrer=concept_details

Use the spinner to answer questions #6 – 8.
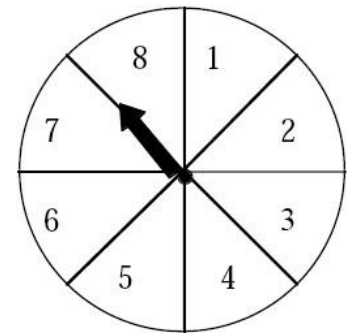
6. What is the probability the spinner will land on an odd number?

7. What is the probability the spinner will land on a multiple of 3?

8. What is the probability the spinner will land on a number with a value greater than five?