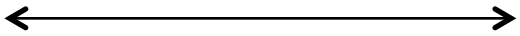
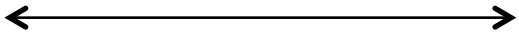
Name _____ Math

Date _____ 70___

Incoming 7th Grade Summer Break Packet

Topic One: Fractions and Decimals

1) Order the following sets of numbers on the number line from ***least to greatest.***

a) $\frac{4}{5}, -\frac{2}{3}, -\frac{2}{6}, -0.75$ 	b) $\frac{3}{8}, \frac{2}{9}, -0.6, -\frac{3}{8}$ 

2) Evaluate each of the following. Show your work.

a) $9.6 + 8\frac{2}{5}$	b) (5.9)(1.102)
c) $7\frac{5}{6} - 1\frac{4}{9}$	d) 161.2 ÷ 3.1
e) $\frac{13}{20} \div \frac{8}{10}$	f) $2\frac{1}{6} \times \frac{4}{5}$

g) $1\frac{1}{4} + 1.35 + 2.56 + 2\frac{7}{10}$

3) Without computing, for each of the following decide which is the best estimate, and explain your decision.

Problem	Estimate	Explanation
$\frac{7}{15} + \frac{6}{12} + \frac{9}{19}$	Over 2 Under 2	
$\frac{5}{8} + \frac{1}{2} + \frac{4}{9} + \frac{19}{20}$	Over 2 Under 2	
$\frac{9}{10} + \frac{4}{5} - \frac{2}{4} + \frac{11}{12}$	Over 2 Under 2	
$\frac{1}{4} + \frac{1}{5} - \frac{1}{6}$	Over 2 Under 2	

4) One cupcake weighs 3½ ounces. How many cupcakes are there in a 28-ounce package?

5) Which one of the following fractions is not equivalent to the others?

a. $\frac{12}{15}$ b. $\frac{20}{25}$ c. $\frac{25}{30}$ d. $\frac{28}{35}$

Show how you found your answer.

6) What happens to a number when it is multiplied by its reciprocal? Explain. In your explanation, give three examples to illustrate your point.

7) Gina is making a bookcase and has $92\frac{5}{8}$ inches of wood. If she uses $61\frac{3}{4}$ inches of wood for the top and bottom, how much wood does she have left for the sides?

8) Stephanie is making lasagna for a party. The recipe uses $1\frac{1}{2}$ teaspoons of basil, $\frac{2}{4}$ teaspoons of salt, $\frac{1}{8}$ teaspoons of pepper and 4 teaspoons of parsley. If she needs to make 1.5 times the recipe, how many teaspoons will she use of each ingredient? How many teaspoons will she use in total (when she combines all of the ingredients)? Show all of your work.

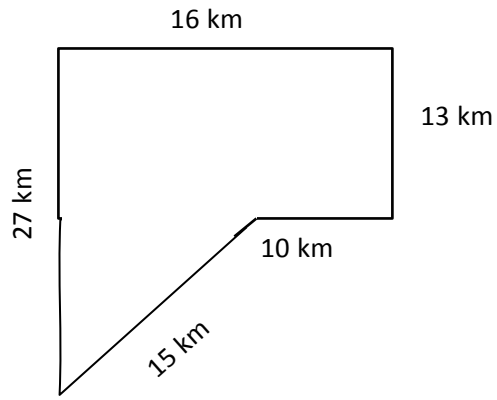
Topic Two: Geometry

1) If the perimeter of Milo's rectangular backyard is 16 feet. What are the possible whole number dimensions of the length and the width of the yard?

2) If the area of Jodi's deck is 36 square feet. What are the possible whole number dimensions of her deck?

3) You want to make a rectangular prism out of cardboard, without overlapping cardboard. It has the length of 3 feet, the width of 1 foot, and the height of 2 feet. How much cardboard would you need to buy? Show all your work.

4) What is the area of the irregular polygon below (not to scale)?

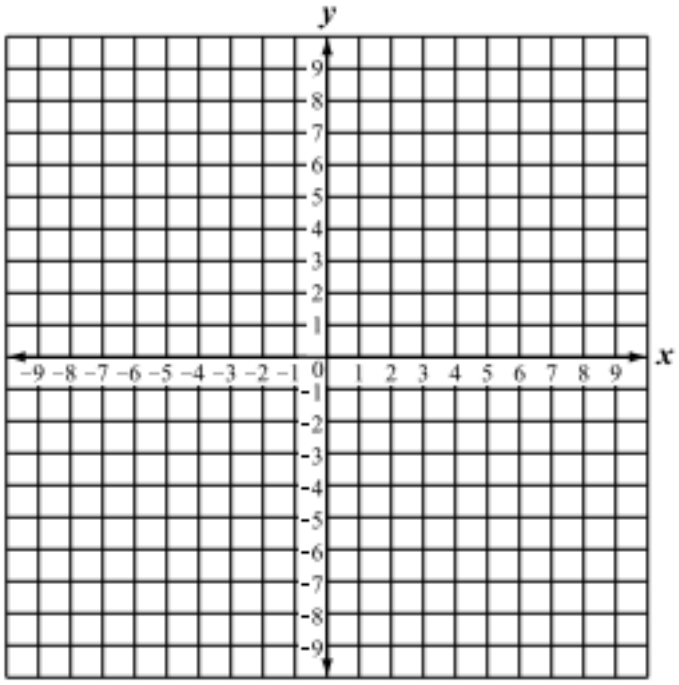


5) Determine whether each statement is **always, sometimes,** or **never true.** Explain or give a counter example to support your answer.

a. Both x and y coordinates of a point in quadrant 1 are negative._____

b. The x coordinate of a point that lies on the x-axis is negative._____

c. Are the points (-7,8) and (8,7) in the same location? Graph the points. Then explain your answer. Make sure that you include in your answer in which quadrant the points are located.



6) A box of cereal has the dimensions of 8 inches, 3 inches and 12 inches. Find the volume of the box. Show all your work.

7) What is the difference of finding the volume of a box vs. finding the surface area of a box? Include in your discussion an example for each situation.

Topic Three: Proportional Reasoning

1) If you can buy 8 gallons of gas for $26.50, what is the unit rate?

2) Verizon has to install cable along a road that is $1\frac{1}{2}$ miles long. It takes the crew 1 day to lay $\frac{1}{4}$ of a mile of cable. How many days will the installation take?

3) Eli wants to buy a video game that costs $35. He has a 25% coupon. How much is the discount? What will he pay for the video game?

4) The school is having a bake sale. It costs $6 to make a cake. The school wants to make a 25% profit on each cake. How much should the school charge for each cake?

5) Sixteen of 80 dogs in a rescue kennel are puppies. What percent of the dogs in the kennel are puppies?

Topic Four: Algebra and Negative Numbers

1) Solve.

a. 56 = 7*p*	b. $56 = \frac{h}{9}$	c. $\frac{k}{5} - 10 = 3$	d. 3*t* + 5 = 2

2) Write an algebraic expression for the following:

Three less than four times a number_____

Eight less than the quotient of a number_____

Twelve more than the product of 12 and y _____

3) Janie and her friends played a question and answer video game. Their scores at the end of the game were 14, -15, 8, -16, 3, 0, 12, 10. Find the median score of the game.

4) The average temperature of Saturn is -218°F while the average temperature of Jupiter is -162°F. Which planet has the lower average temperature? Explain your reasoning.

5) Find all values of x that make the statement $|x| = 7$ true. Explain your reasoning.

June 22, 2015

Dear incoming 7th grade students:

Congratulations on making it through your first year of middle school and welcome to 7th grade. The 7th grade math curriculum is a rigorous curriculum that builds on what you have learned in 6th grade math, and supports the NYS Common Core standards. In order to help prepare you for a successful transition, a summer math break packet is attached.

This summer break packet includes important 6th grade topics that you should know prior to the first day of school. This packet is due on **Friday, September 11, 2015** to your math teacher. For your convenience, the packet will be posted on the MS 447 Website. It will be graded as a project, the rubric for the project is attached. We recommend that you review the rubric before you begin, as well as refer to it as you continue to work through the project. You should NOT use calculators.

We would also like to take the opportunity to gather some information about you and your families as soon as possible. Please return this letter with the information below completed, so that we start off the year with contact information.

We look forward to meeting you in the fall!

Sincerely,
7th Grade Math Team

Student Name:_____ Preferred Name:_____

Student email:_____

Parent/Guardian(s) names:_____

_____

Parent/Guardian(s) emails:_____

_____

Parent/Guardian(s) phone numbers:_____

_____

Student and Parent/Guardian Declaration

I have completed this packet to the best of my ability and am prepared to turn it in on September 11, 2015.

_____ _____

student signature parent/guardian signature

Reflection Questions

Student Name _____

6th Grade Math Teacher Name _____

1) What was your favorite topic in 6th grade math? Why? What was your least favorite topic in 6th grade math? Why?

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2) What are your strengths as a math student? What are your weaknesses as a math student?

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3) List at least 3 goals for 7th grade math. Then, explain how you plan on achieving your goals.

4) In reflecting on your work on this packet, how did you complete it and how do you feel you did? (talk about how long it took you, think about your work habits - did you complete in one sitting, broken up over the course of a few weeks or days?). How much effort did you put into this project? Explain. If you could give yourself a grade, according to the rubric, what would it be?

Characteristi	4	3	2	1	0
Question identified / Clarified	Math information / numbers identified. Appropriate labels identified. Math information used to solve the problem.	Math information / numbers identified. Appropriate labels identified. Most of the math information is used to solve the problem.	Math information / numbers identified. Labels may be missing. Some of the math information is used to solve the problem.	No math information / numbers identified. Prompt is copied. No math information is used to solve the problem.	No attempt or below grade level work shown.
Strategy chosen and applied	Used an appropriate strategy. Reasonable strategy selected and developed. Content knowledge is used correctly.	Used an appropriate strategy. Reasonable strategy selected, moderately developed. Content knowledge used appropriately, with minor computation errors.	Used an appropriate strategy. Reasonable strategy selected, minimally developed. Uses content knowledge with conceptual errors.	There is an attempt to solve the problem. No strategy is applied that could lead to an answer. Uses no content knowledge.	No attempt at using a strategy or below grade level work shown.
Calculations performed	Calculated the correct answer. Work shown is logical. Diagrams or labeled work support the strategy. Calculations are completely correct and answers properly labeled.	Calculated a correct answer but was unable to explain the strategy. Work shown has gaps. Calculations are mostly correct, may contain minor errors.	Work is partially shown. Major errors may be evident. Calculations contain major errors.	Attempted to solve the problem. A limited amount of work shown. Calculations are completely incorrect leading to an incorrect answer.	No attempt or below grade level work shown.
Correct Answer	Arrived at a correct answer.	Arrived at correct answer that comes from computation errors.	Arrived at a correct answer that comes from conceptual errors.	Incorrect answer.	No attempt or below grade level work shown.
Justification of strategy, conclusion and/or answer	Justifies the strategy, conclusion, and/or answer to the problem.	Justifies the strategy, conclusion, and/or answer, but leaves out details.	Attempts to justify the strategy, conclusion, and/or answer, but the justification is not relevant to the problem.	No justification for the strategy, conclusion, and/or answer.	No attempt or below grade level work shown.
Explanation of strategy for solving the problem.	Adequately explained the answer. Exemplary explanation. Detailed and clear, examples may have been provided.	Adequately explained the strategy but did not calculate the correct answer. Explanation contained adequate details. Adequate clarity.	Could not explain the strategy used. Explanations are somewhat clear. Lacks details.	Attempted an explanation, but incorrect or unclear.	No attempt or below grade level work shown.
Communication	Uses mathematical language, graphs, diagrams, and/or charts appropriately. Solution is presented in a clear and orderly manner so the reader can follow the flow of the solution and final answer.	Uses mathematical language, graphs, diagrams, and/or charts appropriately, but may contain transcription or computation errors. Solution is presented in a manner so the scorer can follow most of the steps in the solution and final answer.	Uses mathematical language, graphs, diagrams, and/or charts appropriately, but contains conceptual errors. Solution is presented in an unclear manner. Scorer has difficulty following the sequence of steps.	Uses little or no mathematical language, graphs, diagrams, and/or charts but contains conceptual errors. Presents the problem in an unclear manner, steps are missing or out of sequence. Scorer cannot determine a sequence of steps.	No attempt or below grade level work shown.