

## Clearview Regional High School District 2017 Summer Assignment Coversheet

<b>Course:</b>	Math 7 and Advanced Math 7
<b>Teacher(s):</b>	Massi, Miller, Musto, Paoletti, Santoro
<b>Due Date:</b>	Friday, September 8, 2017
<b>Purpose of Assignment:</b>	To assess the students understanding of concepts necessary for success in Math 7 and Advanced Math 7. This will also serve as a study guide for first quiz on September 12, 2017 in Advanced Math 7.
<b>Description of Assignment:</b>	Students will solve basic skills problems (involving whole numbers, fractions, and decimals) and larger word problems. All problems are to be solved without the use of a calculator.
<b>New Jersey Student Learning Standards (Content) covered:</b>	The Number System 6.NS.1, 6.NS.2, 6.NS.3, 6.NS.4, 6.NS.8 Expressions and Equations 6.EE.2 Geometry 6.G.1, 6.G.2
<b>Grading/Use of Assignment: Category/Weight for Q1:</b>	<u>In Advanced Math 7:</u> The actual packet will be checked for completion and will count as a homework grade. All work must be shown to receive full credit. The students will also be quizzed on this material on September 12 <sup>th</sup> . Quizzes are 25% of your grade. <u>In Math 7:</u> Completion of the packet is recommended to strengthen skills, but it will not count as a homework grade.
<b>Specific Expectations:</b>	Students are to complete the packet and seek additional practice (see additional resources below) for any developing skills where needed.
<b>Where to Locate Assignment:</b>	Clearview Website <a href="http://www.clearviewregional.edu">www.clearviewregional.edu</a>
<b>Teacher Contact Information:</b>	Mrs. Jill Miller <a href="mailto:millerji@clearviewregional.edu">millerji@clearviewregional.edu</a> Ms. Paoletti <a href="mailto:paolettian@clearviewregional.edu">paolettian@clearviewregional.edu</a>
<b>Additional Help/Resource(s):</b>	virtualnerd.com, khanacademy.org, learnzillion.com, mathisfun.com, analyzemath.com, freemathhelp.com

# **Welcome to Clearview Middle School!**

## **Math 7 and Advanced Math 7**

This assignment is designed to help you start Math 7 or Advanced Math 7 successfully. It may also help you identify any areas that you need to strengthen beforehand. Math 7 covers all 7<sup>th</sup> grade standards and focuses on fluency and retention for success in 8<sup>th</sup> grade. The Advanced Math 7 course is designed to increase the level of challenge within the 7<sup>th</sup> grade standards. This course moves at an accelerated pace, includes timed assessments throughout the year (many without the use of a calculator), and includes work with some 8<sup>th</sup> grade concepts. It is expected that all students in Advanced Math 7 have mature work habits and the ability to problem solve both collaboratively and independently.

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There are two parts to this summer assignment:

### **I. Skills Fluency**

Each student should be placed in the appropriate math course – one that provides a challenge without the student feeling constantly overwhelmed. This summer pack will help you make sure that the prerequisite skills that we'll be using in the first quarter are already strongly in place so that we can build upon them.

### **II. Make Sense of Problems and Persevere in Solving Them**

Students should be able to explain the meaning of a problem and actively look for ways that it can be solved. Instead of jumping right into an attempt at a solution, students need to critically analyze the math problem, speculate about the form and meaning of the solution, and plan a pathway to get there.

#### ***FOR ADVANCED MATH 7 ONLY***

*This summer assignment is essentially your study guide for the skills assessment.*

**Summer Assignment DUE DATE: FRIDAY, SEPTEMBER 8**

\*This will be checked for completion and will count as a homework grade.

\*When appropriate, work must be shown to receive full credit.

**Date of Skills Assessment: TUESDAY, SEPTEMBER 12**

\* You will be given 40 minutes to complete the assessment (a quiz grade) without the use of a calculator.

### **Showing Work**

Throughout your math career at Clearview, you will be required to show logical and organized work that leads to your solution. Assessments are rarely scored solely on answers, rather are designed to assess your ability to communicate your reasoning from the beginning to the end of the problem-solving process.

## Thinking Ahead

### *Interested in jumping up a level in 8th grade?*

Students who are challenged throughout Advanced Math 7 course can expect to have a successful 8<sup>th</sup> grade year in Advanced Math 8, while students who push the upper limits of Advanced Math 7 and are fully ready for another increase in the level of difficulty will be recommended to take Honors Algebra 1 in 8<sup>th</sup> grade. Similarly, students who excel through the challenge of Math 7 will be recommended to take Advanced Math 8 in 8<sup>th</sup> grade.

Written Work	
Developing	Strong
Student shows only answers or needs repeated reminders to show work.	Consistently shows work without reminders.
Work only shows calculations such as long multiplication and long division, etc.	Work begins with expressions or equations that model the situation and shows logical steps to simplify or solve to reach a solution.
Work is scattered and hard for a reader to follow.	Work has a logical flow.

Habits	
Developing	Strong
Work isn't consistently completed on time. Student doesn't follow up to make up missing work.	Work is completed on time. In the rare occasion that work isn't completed on time, student follows up to turn work in within a day.
Student gives up easily, often says, "I never learned this." Leaves questions completely unanswered with no written evidence of perseverance.	Perseveres through problem solving. Consistently shows written evidence of working through problem to the best of ability, even when unsure. Utilizes various resources.
Student does not follow up or seek help when needed. Waits for teacher or parent to remind them.	Takes ownership and responsibility. Actively seeks help by going to peers, teacher, or other resource when needed.

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### Come to Math Camp!

We offer a 3-day math camp in August to help students get ready for the year. You should come – it's a really fun way to meet new peers and teachers, and it's only two hours each day! You can ask questions, strengthen a few skills, and wake up your math memories before school starts.

Check the [www.clearviewregional.edu](http://www.clearviewregional.edu) to register for one of these 3-day Math Camp sessions:

**August 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>**      OR      **August 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>**

Enjoy your summer with some rest, recreation, family, friends, and of course, some math!

- *Mr. Massi, Mrs. Miller, Ms. Musto, Ms. Paoletti-Bayna & Ms. Santoro*

## **I. Skills Fluency**

**Add, Subtract, Multiply or Divide as indicated. Show correct work without the use of a calculator.**

1] $35 \times 26$	2] $493 \times 67$
3] Use long division: $2230 \div 9$	4] Use long division: $1620 \div 36$
5] $43.96 + 82.78$	6] $146.53 - 65.9$
7] $12.5 \times 3.7$	8] Use long division: $5.224 \div 0.08$
9] $\frac{3}{4} + \frac{5}{7}$	10] $\frac{7}{9} - \frac{3}{5}$

$$11] 5\frac{2}{3} + 3\frac{5}{8}$$

$$12] 8\frac{6}{7} - 2\frac{2}{3}$$

$$13] 10\frac{1}{3} - 3\frac{7}{8}$$

$$14] \frac{27}{40} \times \frac{20}{63}$$

$$15] \frac{25}{36} \div \frac{35}{48}$$

$$16] 2\frac{1}{2} \cdot 3\frac{1}{5}$$

$$17] 6\frac{2}{5} \div 20$$

$$18] 5\frac{1}{4} \div 2\frac{1}{7}$$

**Evaluate using the Order of Operations**

19] $7 \times (4^3 - 6) \div 2$	20] $20 \div 5 \times 2 - (6 + 2) \times 7$
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**Evaluate if  $a = 9$  and  $b = \frac{1}{4}$ .**

21] $5a - 12b$	22] $36b + 7a$
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**Change the mixed numbers to improper fractions.**

23] $6\frac{11}{17}$	24] $9\frac{3}{61}$
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**Change the improper fractions to mixed numbers.**

25] $\frac{10}{7}$	26] $\frac{132}{11}$
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**Find all the factors.**

27] 45	28] 72
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**Find the Least Common Multiple of the two numbers.**

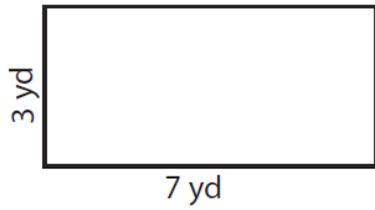
29] 8 and 10	30] 108 and 72
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**Simplify to lowest terms.**

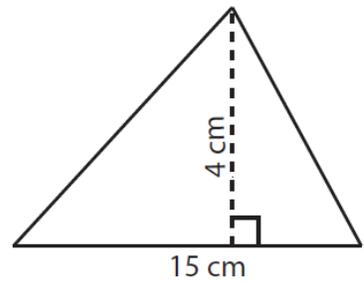
31] $\frac{66}{99}$	32] $\frac{35}{42}$
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Find the area of each figure.

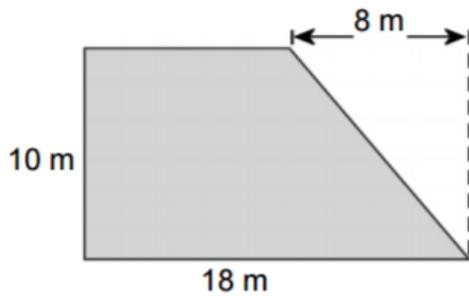
33]



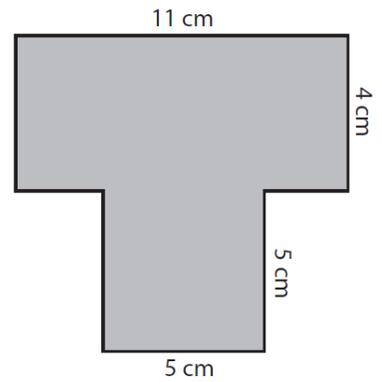
34]



35]

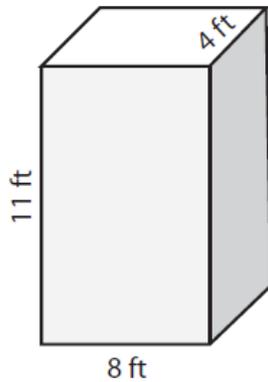


36]



Find the surface area and volume of each rectangular prism.

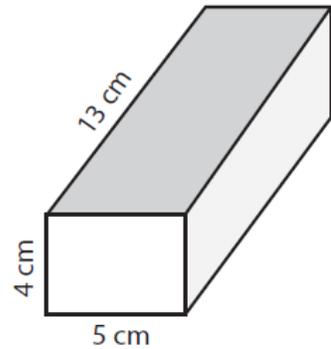
37]



Surface Area = \_\_\_\_\_

Volume = \_\_\_\_\_

38]



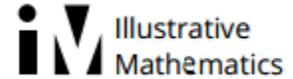
Surface Area = \_\_\_\_\_

Volume = \_\_\_\_\_

## II. Make Sense of Problems and Persevere in Solving Them

Remember, we are not looking for perfection. We are looking for written evidence that you are doing your best to make sense of the problem and persevering in solving it. These problems are based on 6<sup>th</sup> grade standards, so you have all the math knowledge you need to solve them! Enjoy.

These problems are taken from [www.illustrativemathematics.org](http://www.illustrativemathematics.org)



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P1. **Rectangle Perimeter** - Sadie computes the perimeter of a rectangle by adding the length,  $l$ , and width,  $w$ , and doubling this sum. Eric computes the perimeter of a rectangle by doubling the length,  $l$ , doubling the width,  $w$ , and adding the doubled amounts.

- a. Write an expression for Sadie's way of calculating the perimeter. Write an expression for Eric's way as well.
  
  
  
  
  
  
  
  
  
  
- b. Use both of the expressions to find the perimeter of a rectangle with length 30 and width 75.
  
  
  
  
  
  
  
  
  
  
- c. Explain why Sadie and Eric always get the same answer, no matter what the length and width of the rectangle are.

P2. **Pennies to Heaven** - A penny is about  $\frac{1}{16}$  of an inch thick.

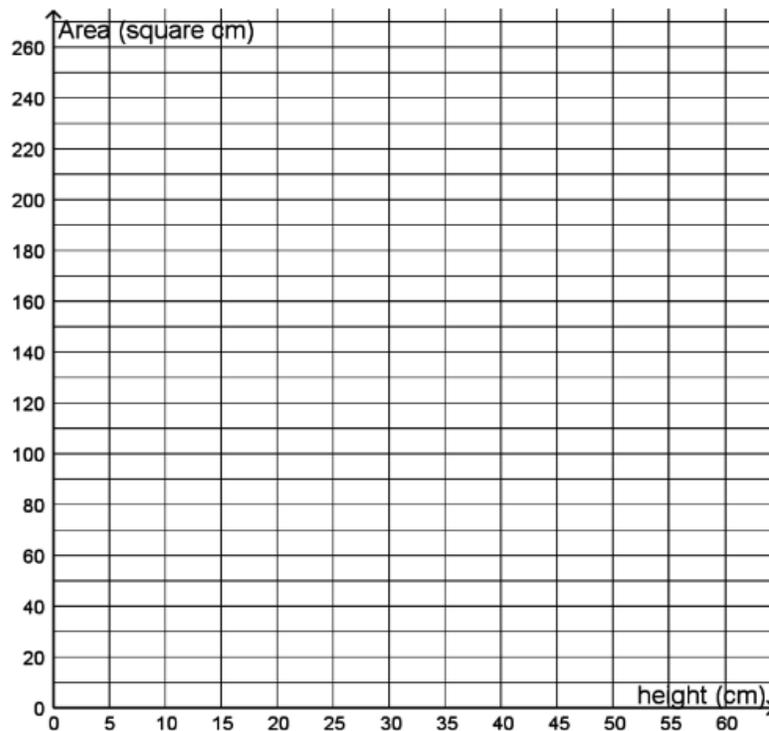
- a. In 2011 there were approximately 5 billion pennies minted. If all of these pennies were placed in a single stack, how many miles high would that stack be?
  
  
  
  
  
  
  
  
  
  
- b. In the past 100 years, nearly 500 billion pennies have been minted. If all of these pennies were placed in a single stack, how many miles high would that stack be?
  
  
  
  
  
  
  
  
  
  
- c. The distance from the moon to the earth is about 239,000 miles. How many pennies would need to be in a stack in order to reach the moon?

**P3. Families of Triangles** - There are a bunch of triangles. They all have one side that is 10 centimeters long, which we will consider as the base of the triangle.

- a. The triangles each have a different height (as measured off of the 10-centimeter base) and so have different areas. Fill in the table:

Height (centimeters)	Area (square centimeters)
20	
25	
40	
	250

- b. Plot the ordered pairs from the table in the coordinate plane and label them with their coordinates.



- c. Where can you see the answers to part (a) in the coordinate plane?
- d. If  $A$  represents the area and  $h$  represents the corresponding height, write an equation using  $A$  and  $h$  that represents the area of any such triangle.