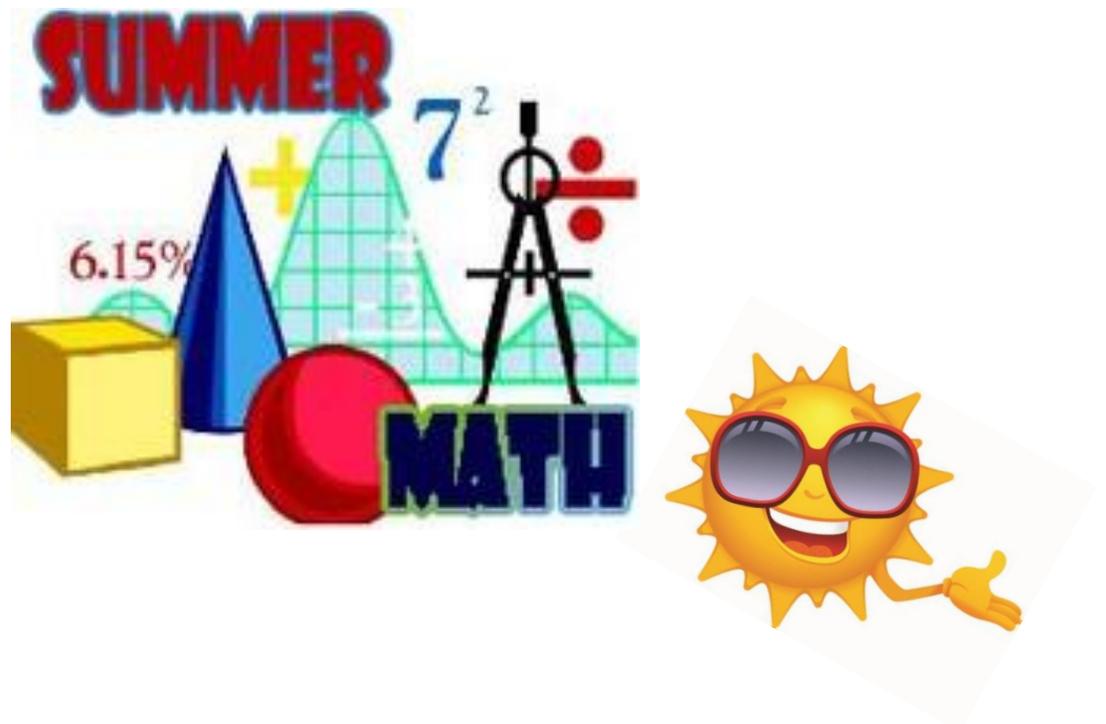


## 8<sup>th</sup> Grade Summer Math Bridge Work – “The Weekly 10”

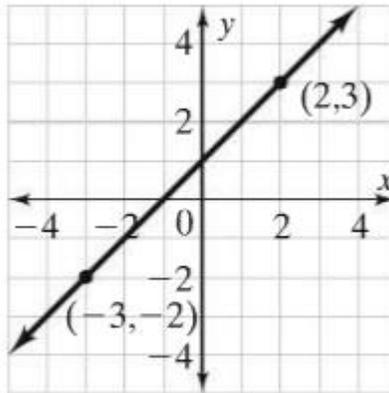
This packet contains 10 problems for each of 7 weeks during the summer which are aimed at keeping what was learned in 7<sup>th</sup> grade fresh for 8<sup>th</sup> grade. We encourage spreading the work out over the summer, doing the ten problems a week, instead of doing the whole packet at the beginning of the summer or at the end of the summer. Remember the goal: retention of concepts, particularly for algebra in 8th! We have also built in one or two weeks “off” without problems for vacations or just for a break.

Complete the following problems on looseleaf, using the proper header at the top of the paper and neatly organize the assignment. You must show all your work and circle your answers. This assignment will be graded upon return for accuracy, neatness, showing of work, and following directions.

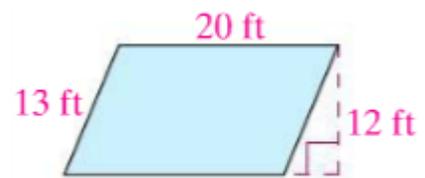


## Week 1

1. Simplify:  $-2\frac{7}{8} + 4\frac{1}{4}$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $5x - 9 = 31$
3. Solve the following inequality, showing your work and graphing the inequality:  $3p - 1 > 1$
4. Solve the following proportion:  $\frac{12}{a} = \frac{3}{5}$
5. Solve, using the method of your choice: 54 is what percent of 135?
6. Find the slope of the line:



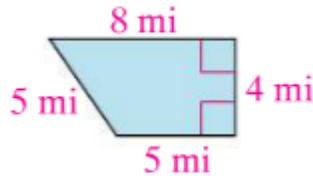
7. Find the area:



8. Simplify:  $4^8 \cdot 4^{15}$
9. Suppose the Beard family buys a large screen TV. They arrange to pay by making 48 equal payments of \$99.50 but not have begun to pay yet. What is their total debt?
10. An electronic counter increases by 1 every second. If it starts at 0, what will the count be after 50 days? Express your answer in scientific notation.

Week 2

1. Simplify:  $-1\frac{1}{6} - 6\frac{2}{3}$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $5 - 3x = -49$
3. Solve the following inequality, showing your work and graphing your solution:  $1.5 + 7y \geq 5$
4. Solve the following proportion:  $\frac{7}{8} = \frac{n}{4}$
5. Solve, using the method of your choice: 30% of 250 is what number?
6. Graph  $y = -2x + 3$ . State the slope and the y-intercept.
7. Find the area:

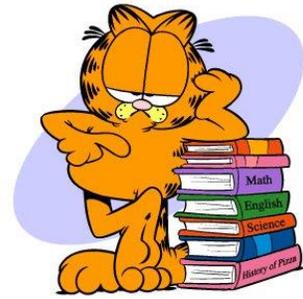


8. Simplify:  $ab^0$
9. A pair of running shoes costs \$37 less than twice the cost of a pair of basketball sneakers. The sneakers cost \$48.50. How much do the running shoes cost? Write and solve an equation.
10. You sell packs of 12 pens for \$3.48. At this rate, how much should you charge for a pack of 20 pens?



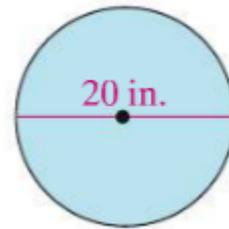
# Math

## Week 3



1. Simplify:  $13.7 - 15$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $8(3 - 5x) = -16$
3. Solve the following inequality, showing your work and graphing your solution:  $1.5 + 7y \geq 5$
4. Solve the following proportion:  $\frac{7}{x} = \frac{17.5}{5}$
5. Solve, using the method of your choice: 4% of what number is 8?
6. Find the slope of the line that passes through (6,7) and (1,3).
7. Find the circumference and the area:

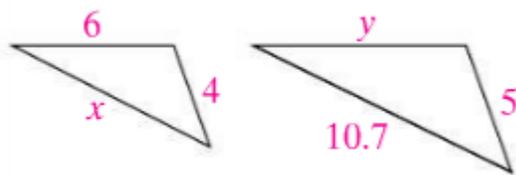
Make sure you label each appropriately.



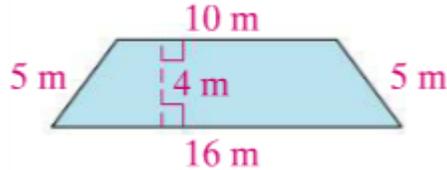
8. An auto rental agency offers a rate of \$38 per day plus \$0.30 per mile. After a one-day rental, Micha's bill was \$74. How many miles did Misha drive? Write and solve an equation.
9. Rico uses oil paints to create abstract artwork. Each month he buys one large canvas for \$42. He also buys tubes of oil color for \$8 each. He uses the function  $s = 8t + 42$  to track his monthly expenses where  $s$  represents the total cost of supplies in dollars and  $t$  represents the number of tubes of oil color. Make an input-output table, graph your results, and determine if the function has a proportional relationship.
10. You want to borrow \$600. Loan A offers 8% simple interest for 30 months. Loan B offers 5% simple interest for 5 years. Calculate the interest for each loan, and then select which loan would result in paying the least interest.

## Week 4

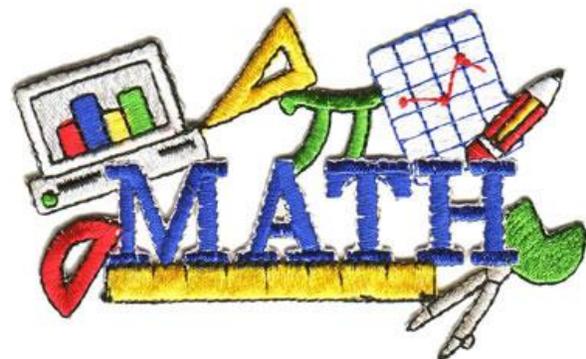
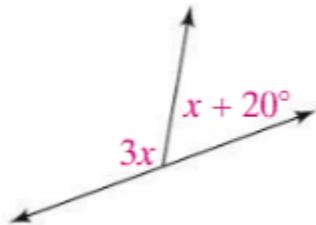
1. Simplify:  $-4.59 + 5.49$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $8x + 7 - 5x - 9 = 19$
3. Solve the following inequality, showing your work and graphing your solution:  $-\frac{1}{5} < 2x + \frac{4}{5}$
4. The pair of figures is similar. Find the value of each variable.



5. Solve, using the method of your choice: 35 is what percent of 43.75?
6. Graph the function:  $y = \frac{3}{5}x + 1$ . Then, state the slope and the y-intercept.
7. Find the area:

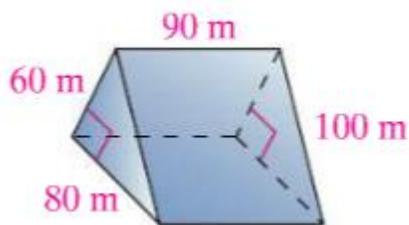


8. Simplify:  $6^{-2}$
9. For your party, you plan a game where each player needs 3 spoons. You buy a box of 50 spoons. At most, how many people can play the game? Write and solve an inequality, and then explain your answer.
10. Write an equation relating the measures of the two angles, and then solve it to find  $x$ , and then use  $x$  to find the angle measures.

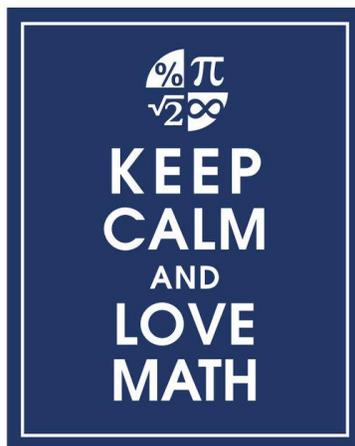


## Week 5

1. Simplify:  $-2\frac{3}{8} - 4\frac{3}{4}$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $2a = 3(a + 1)$
3. Solve the following inequality, showing your work and graphing your solution:  $-1.9 \leq \frac{b}{4} + 0.1$
4. Find the percent of change, stating if it is an increase or a decrease.  
From 25 to 40
5. Solve, using the method of your choice: 32.5 is what percent of 130?
6. Find the equation of the line that passes through (0,2) and (-3, -4) +2
7. Find the surface area and the volume of the following shape, labelling each accordingly:

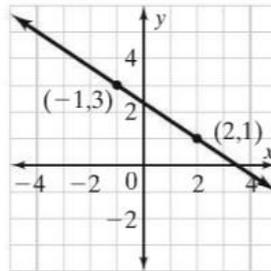


8. Simplify:  $\frac{5^9}{5^6}$
9. A bottle of 250 multivitamins costs \$14.99. A bottle of 500 multivitamins costs \$32.99. Which bottle is the better buy? Explain.
10. Your family drives for 30 minutes to get to a restaurant. You stay for 60 minutes. Then your family starts driving home. After 15 minutes, you stop at a store for 30 minutes. Then you drive the rest of the way home in 15 minutes. Sketch and label a graph showing your distance from home during your trip.

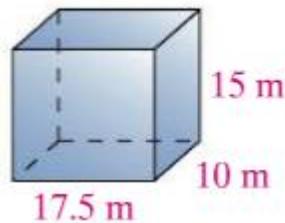


## Week 6

1. Simplify:  $1\frac{1}{8} - 5\frac{1}{4}$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $-9 - 3y = 19 + y$
3. Solve the following inequality, showing your work and graphing your solution:  $3 \leq -4b + 15$
4. Find the percent of change, stating if it is an increase or a decrease.  
From 63.5 to 20
5. Solve, using the method of your choice: What number is 90% of 70?
6. Find the slope of the line:



7. Find the surface area and the volume of the following shape, labelling each accordingly.



8. Simplify:  $(-3)^{-5}$
9. The local library is having a spring fair. Admission is \$1 and snacks cost \$1.50 each. What is the maximum number of snacks you can buy if you have \$10 to spend? Write and solve an inequality, and then explain your answer.
10. Using the function rule  $y = 2x - 1$ , calculate the output for:  
a)  $x = 1$     b)  $x = 0$     c)  $x = -3$     d)  $x = \frac{1}{2}$

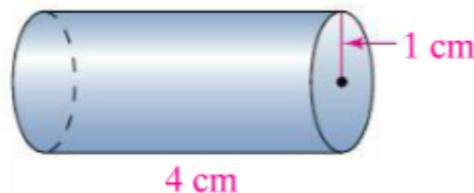


## Week 7

1. Simplify:  $-6\frac{7}{8} + 4\frac{1}{4}$
2. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $8(3a - 5) = 56a$
3. Solve the following equation, showing your work and your check. If needed, state if an equation has no solution or infinitely many solutions:  
 $2g + 7 = -4g + 7 + 6g$
4. Find the percent of change, stating if it is an increase or a decrease.  
From 111 to 150
5. Solve, using the method of your choice: 90 is 30% of what number?
6. Find the rate of change. Is this a linear function? Why or why not?

$x$	-2	0	2	4	6
$y$	10	7	4	1	-2

7. Find the surface area and the volume of the following shape, labelling each accordingly.



8. Bus fare for adults in one city is \$1.50. The fare for students is \$1.00. At one stop, twice as many students boarded the bus as adults. Is it possible that the total fares paid by students is the total fares paid by adults? Justify your answer.
9. You go to a stylist for a haircut. The cost of the haircut is \$12.50. Find the amount of a 15% tip for the stylist. After stating what the tip will be, determine and state what the trip to the stylist cost you total.

10. If angles P and Q are complimentary, and the measure of angle P is 8 times the measure of angle Q. Find the measures of each angle by writing and solving an equation.

Additional Math Resources (optional):

1. Summer Skills Books: <http://www.summerskills.com/>  
(These were the ones ordered through St. Rose; we no longer have any available, but you may order on your own.)
2. Khan Academy: focus on prealgebra skills; online instructional videos to review concepts as well as opportunities to practice
3. Spend some time with puzzles such as the following to build reasoning skills:
  - a. Ken Ken: <http://www.kenkenpuzzle.com/>
  - b. Sudoku: <http://www.websudoku.com/> (or iPad app)
  - c. Tangrams: <http://pbskids.org/cyberchase/math-games/tanagram-game/> (one possible site, iPad app TanZen also)
  - d. Logic Puzzles: <http://logicgridpuzzles.com/>