

Summer Review for students who have COMPLETED Math 7 or Math 7 for 6th Graders
 Show your work. Use extra paper if needed and attach it to the packet.

Week #1

Name:

1. Simplify:

$$\frac{7-15}{-2}$$

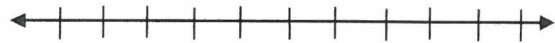
2. The town of Pratt has a population of about 8,260,000. Express this number in scientific notation.

3. What is the value of the expression below when $a = -3$ and $b = 2$?

$$a^2 + |ab|$$

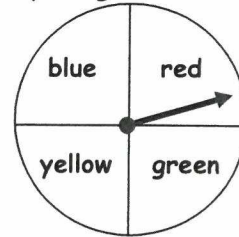
4. Solve and graph the solution to the inequality on the number line.

$$4 \geq x + 8$$



5. Mr. Nguyen saves \$120 of his income of \$800.00. What percent of his income does Mr. Nguyen save?

6. On this spinner, what is the theoretical probability of spinning a color that is not yellow?



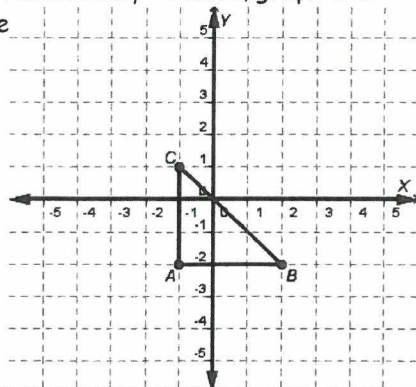
7. James owes \$185 on his credit card. He makes a \$65 payment and then purchases \$87 worth of clothes at a local department store. What is the integer that represents the balance owed on the credit card?

8. Marcela's grocery bills for three months were \$75, \$87, and \$25. To add the bills mentally, Marcela thought:

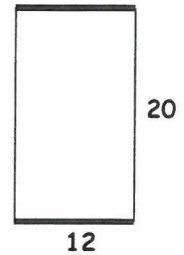
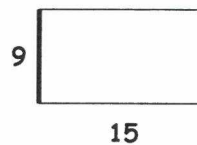
$$"75 + 87 + 25 = 75 + 25 + 87"$$

What property did Marcela use?

9. If the triangle shown is translated vertically 3 units and horizontally -4 units, graph the image of the triangle.





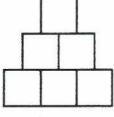
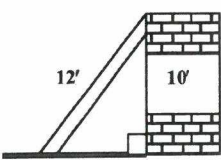
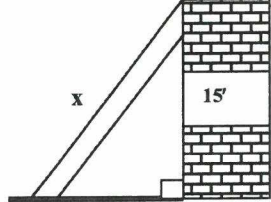
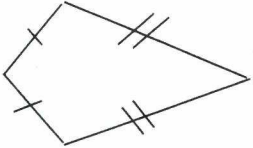
10. The rectangles below are similar. Write a proportion to show the relationship between the corresponding sides.



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Week #2

Name: _____

<p>1. Simplify: $-3(14 - 20) + 2$</p>	<p>2. Kia's height is one-fourth of Sammy's height. If Kia is $1\frac{1}{2}$ feet tall, how tall is Sammy?</p>										
<p>3. <u>Multiple Responses</u>: Circle the letters of the verbal expression(s) that match this algebraic expression: $6 - 3k$</p> <p>A. the product of 3 and k <u>is less than 6</u></p> <p>B. the product of 3 and k <u>less than 6</u></p> <p>C. the product of 3 and k <u>less 6</u></p> <p>D. <u>6 is less than</u> the product of 3 and k</p> <p>E. <u>6 less than</u> the product of 3 and k</p> <p>F. <u>6 less</u> the product of 3 and k</p>	<p>4.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>1st wall</p> </div> <div style="text-align: center;">  <p>2nd wall</p> </div> <div style="text-align: center;">  <p>3rd wall</p> </div> </div> <p>How many bricks are in the 3rd wall? _____</p> <p>How many bricks would be in the 6th wall? _____</p> <p>Explain the pattern.</p>										
<p>5. Draw an isosceles trapezoid and label all congruent and parallel parts.</p>	<p>6. Solve: $13 = -3x - 8$</p>										
<p>7. Two ladders leaning against two walls happen to form two similar right triangles. What is the height of ladder x?</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	<p>8. What is the most specific name to classify this plane figure?</p> <div style="text-align: center;">  </div> <p>What are other names that accurately classify this figure?</p>										
<p>9. Sharon spends \$80.00 at the computer store. The tax on her purchase is \$4.00. Use a proportion to find the tax rate as a percent.</p>	<p>10. A card will be randomly selected from the cards shown below, and then replaced. A second card will then be selected.</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">8</td> <td style="padding: 5px;">12</td> <td style="padding: 5px;">16</td> <td style="padding: 5px;">20</td> </tr> <tr> <td style="padding: 5px;">24</td> <td style="padding: 5px;">28</td> <td style="padding: 5px;">32</td> <td style="padding: 5px;">36</td> <td style="padding: 5px;">40</td> </tr> </tbody> </table> <p>What is the probability that the first card is a multiple of 8 and the second card is a perfect square?</p>	4	8	12	16	20	24	28	32	36	40
4	8	12	16	20							
24	28	32	36	40							

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Week #6

Name:

1. Kristin goes to the mall and buys a pair of brand name sunglasses on sale for $\frac{1}{3}$ off the regular price of \$240.00. How much will she have to pay?

2. Flip a coin ten times and notice how often "heads" appeared. Explain your experimental probability compared to the theoretical probability to justify why they are the same or different.

3. A rectangle has a perimeter of 30 m. The length is 10 m. Solve the following equation to find the width.

$$2w + 2(10) = 30$$

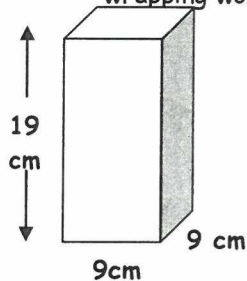
4. The planet Mars is about 142,000,000 miles from the sun.

Express the number in scientific notation.

5. Complete the table.

Input X	Function Rule	Output Y
2	$3(2)$	6
6	$3(6)$	
	$3(8)$	24
10		

6. The box shown below needs to be wrapped for shipping. How many square centimeters of wrapping would be needed to cover the box?



7. Marty and his brother went to the Grand Canyon. They dropped a dime off the highest cliff. The distance the dime fell is 16ft the first second, 48ft the next second, 80ft the third second. What is the common difference?

8. Bao mails a math puzzle to three friends. Each of the three friends mails the puzzle to three more friends, and so on. What is the total number of puzzles in the sixth mailing?

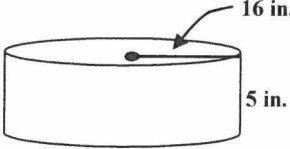
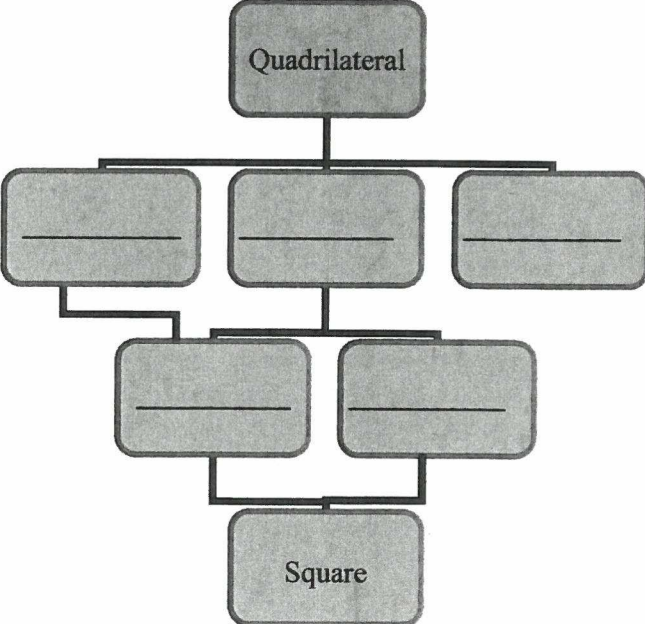
9. Which is greater, 3.3×10^{-1} or 0.3? By how much?

10. Solve: $-2 + 5x = -14$

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Week #8

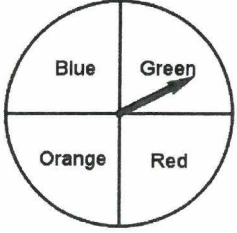
Name:

<p>1. Evaluate $10^4 \times 10^{-4}$.</p>	<p>2. Solve: $2n + 3 = 11$</p>
<p>3. Susan can swim 30 laps in one hour. At this rate, how many laps could she swim in two and a half hours?</p>	<p>4. Consider the sequence</p> <p style="text-align: center;">$1, 4, 9, 16, \dots$</p> <p>What expression could you use to find the nth term?</p>
<p>5. Sophia is planning a vacation. She looks at a map with the following scale.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p style="text-align: center;">$\frac{1}{2}$ inch = 25 miles</p> </div> <p>On the map, Sophia finds the distance from Richmond, VA to Washington, D.C is 2 inches and the distance from Washington to New York City, NY is 5 inches. If she drives from Richmond to Washington and then to New York City, about how many miles will she travel?</p>	<p>6. Find the surface area. Use 3.14 for π. Round decimal answers to the nearest tenth.</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="text-align: left;"> <p>$C = \pi d$</p> <p>$A = \pi r^2$</p> </div> </div>
<p>7. Write an equation for the following: -4 is 6 less than an unknown number.</p> <p>Solve the equation.</p>	<p>8. Complete the missing terms in the proper place in the diagram to show the organization of quadrilaterals by common attributes. The missing terms are: <i>rectangle, trapezoid, kite, rhombus, and parallelogram.</i></p> <div style="text-align: center;">  </div>
<p>9. A cube shaped pool is half full of water. If the water is 3 feet deep, what is the volume when the water is all the way to the top?</p>	

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Week #9

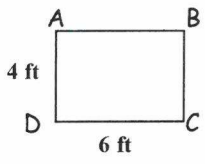
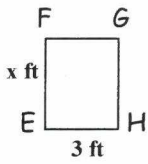
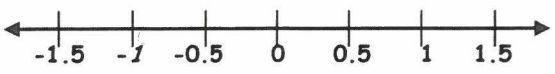
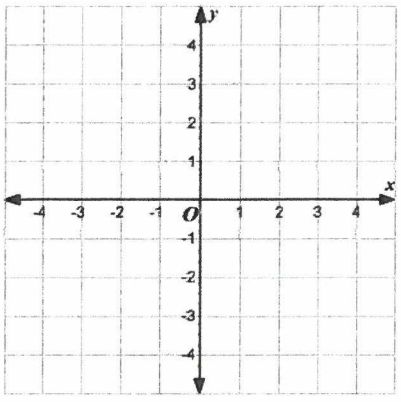
Name:

<p>1. Draw a parallelogram, and label all congruent segments, congruent angles, and parallel sides.</p>	<p>2. The price of a CD is \$16. If the sales tax is 4%, what will be the total price of the CD?</p>												
<p>3. A game spinner is equally divided into blue, green, red, and orange. Mike spun the game spinner 8 times. The spinner landed on Red 3 times. How does Mike's results compare to the theoretical probability of landing on Red?</p> 	<p>4. Margaret works for a soup company as an engineer. She is designing a new size soup can. Margaret needs to find...</p> <p>A the surface area to determine how much soup the new can will hold.</p> <p>B the surface area to determine the amount of aluminum needed for the new can.</p> <p>C the volume to determine the amount of aluminum needed for the new can.</p> <p>D the volume to determine the amount of paper needed to cover the can with a paper soup label.</p>												
<p>5. Complete the table of values that satisfy $y = 3x - 5$</p> <table border="1" data-bbox="435 1003 652 1234"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-2</td> <td></td> </tr> <tr> <td>-1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> </tbody> </table>	x	y	-2		-1		0		1		2		<p>6. If the expression $T+10$ indicates 10 seconds after "take-off" of a space shuttle, what expression indicates 10 seconds before the take-off?</p>
x	y												
-2													
-1													
0													
1													
2													
<p>7. A bucket will hold 30 stones. The first person puts in one stone. The second person puts in two stones. The third person puts in three stones, and so on. On which person's turn will the bucket become full?</p>	<p>8. The Smiths went to a restaurant. The bill was \$27.70. If they gave a 15% tip, how much was the tip?</p>												
<p>9. Robert baked 36 brownies. He saved 12 brownies for himself, and gave the same number of remaining brownies to each of his 6 children. Write an expression that can be used to find the how many brownies each child received. Then simplify it to find the amount.</p>	<p>10. If the height of a rectangular prism is cut in half, what would happen to its volume?</p>												

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Week #10

Name: _____

<p>1. There are 169 chairs in the gymnasium that need to be arranged in rows and columns. How can they be divided so that there are an equal amount of rows and columns?</p>	<p>2. A crate has the shape of a cube and measures 8 inches on a side. How much space inside the cube is available for storage, in cubic inches?</p>
<p>3. Solve: $3 = -7 - x$</p>	<p>4. Solve: $5n - 2 = -9$</p>
<p>5. Rectangle ABCD is similar to rectangle EFGH. Find the value of x.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>4 ft D C 6 ft</p> </div> <div style="text-align: center;">  <p>x ft E H 3 ft</p> </div> </div>	<p>6. Jose's grandmother gives him \$0.10 on Sunday. On Monday, she gives him \$0.20. On Tuesday, she gives him \$0.40. If she continues this pattern, how much money will she give him on Saturday of that week?</p>
<p>7. Your family spends 30% of its monthly income on food. If your family earns \$2000 a month, how much is spent on food?</p>	<p>8. Which property is shown below?</p> $2(3 + 4) = 2(3) + 2(4)$
<p>9. There are 24 marbles in a bag. Six marbles are red, eight are green and ten are black. Find the probability of choosing a green marble if one marble is chosen at random. Express the probability:</p> <p>as a ratio _____</p> <p>as a decimal _____</p> <p>as a percent _____</p> <p>as a point on a number line:</p> 	<p>10. The preimage of rectangle <i>CATS</i> has vertices $C(-1, 2)$, $A(1, 2)$, $T(1, -2)$ and $S(-1, -2)$.</p>  <p>Graph the dilation of rectangle <i>CATS</i> by a scale factor of 2.</p>

