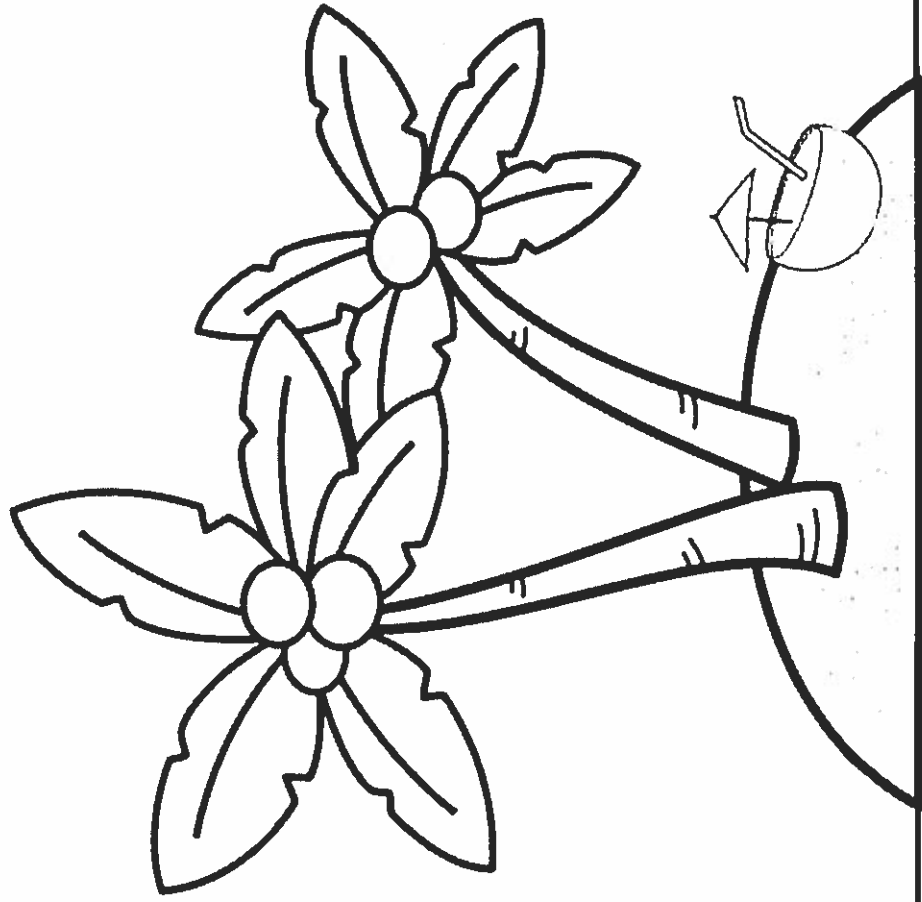
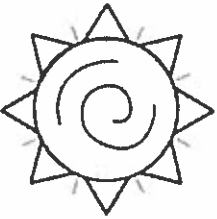


Incoming Algebra I Students

Summer Math Calendar



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Summer Math Calendar

Dear Future 8th Grade Students and Parents,

This summer math calendar has been created to help you maintain all of your hard work that you have done this year in Math. To help you do this, I have put together this calendar with the math concepts that you have already learned so that your skills are sharp and ready to begin Algebra I.

Each week you have been assigned five sets of problems to complete. You may choose when and how to complete them. You may work on the calendar in whichever way best suits your style. You may do the problems for each week all in one day or you may spend five minutes each day completing one problem. All I ask is that you do not leave the calendar until the week or even the day before school begins. This calendar is meant for you to maintain your skills. You may use the advice of siblings, parents and most importantly your own brain to complete the calendar. You must show all of your work and it should be completed in pencil. There is also an evaluation form for you and your parents to complete. This will help us in creating future Summer Packets.

All students who return their fully completed Summer Calendar and their evaluations to their math teacher will have their names entered into a drawing for a \$20 GIFT CARD!!!

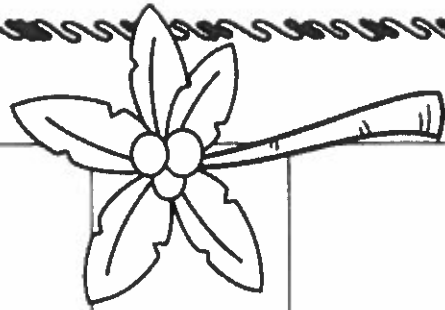
Good Luck! We hope you have a fabulous summer! We can't wait to see you back in the Fall!


Sincerely,

The Benjamin Stoddert Math Department

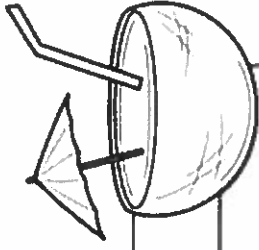


Week One



Problem	Work & Answer
Circle the rational numbers. How do you know if a number is rational? $\sqrt{17}$ $\frac{1}{2}$ -1,423 0.375 $\frac{3}{0}$	
Simplify. Write your answer in exponential notation. a.) $2^3 \times 2^{-5}$ b.) $(6a^2)^2$	
Was the second shape reflected or rotated? Which side of the second shape corresponds to AD? 	
Find the volume of a sphere if $r=6\text{cm}$. Use 3.14 for the value of pi.	
Solve for x . $2(x - 7) = 9x + 10 - x$	





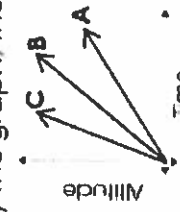
Week Two

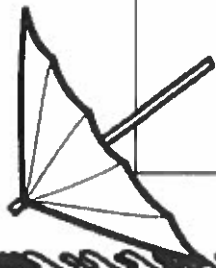


Problem	Work & Answer
<p>a.) 40 is between which two perfect squares? b.) Which two integers is the $\sqrt{40}$ between?</p> <p>S.16.2</p>	
<p>Lines x and y are parallel and cut by the transversal z. Answer questions a. and b. based on these lines below.</p> <p>S.G.5</p>	<p>a.) Name the sets of alternate exterior angles.</p> <p>b.) Alternate exterior angles are always _____.</p> <p>a. complementary b. supplementary c. congruent</p>
<p>Determine if each graph is a function. If it is not a function, explain why.</p> <p>A. </p> <p>B. </p> <p>C. </p> <p>S.F.1</p>	
<p>The population of a town is about 5.7×10^5. Write the population in standard form.</p> <p>S.EE.3</p>	
<p>Solve each equation using a cube root.</p> <p>a.) $x^3 = 1,331$ b.) $\sqrt[3]{\frac{64}{1000}} = x$ c.) $x^3 = \frac{27}{216}$</p> <p>S.EE.2</p>	

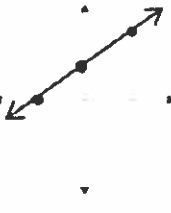

Week Three



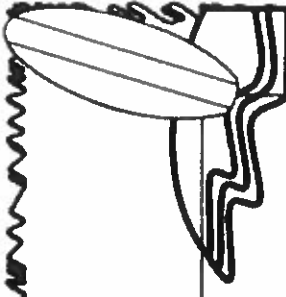
Problem	Work & Answer
<p>Simplify using exponential notation.</p> $\frac{8^2(8^3)^2}{8^5}$	
<p>Name the type of slope of the graphs below as either positive, negative, zero or undefined.</p> <p>A. </p> <p>B. </p> <p>C. </p> <p>D. </p>	
<p>Write each product using scientific notation.</p> <p>a.) $(4.3 \times 10^5)(1.6 \times 10^{-4})$</p> <p>b.) $(2.25 \times 10^3)(5.8 \times 10^2)$</p>	
<p>A, B and C represent movement of three different remote controlled airplanes. Study the graph, then answer the questions in the next box.</p> 	<p>a.) Which plane moves at the fastest rate?</p> <p>b.) Which plane moves at the slowest rate?</p> <p>c.) How can you tell how fast or slow each plane goes?</p>
<p>Determine the slope for each set of ordered pairs.</p> <p>a.) $(-1, 3)$ $(7, -1)$ b.) $(6, 8)$ $(6, -2)$ c.) $(-6, -5)$ $(-3, -3)$</p>	

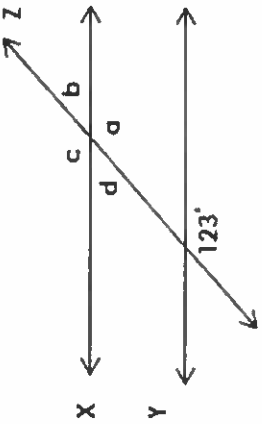


Week Four

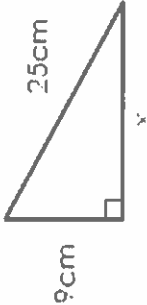
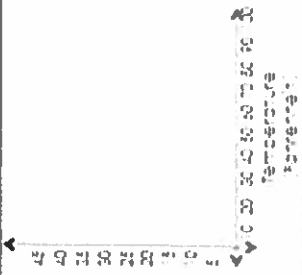
Problem	Work & Answer																														
<p>Tell whether each table represents a linear or non linear function. If it is not linear explain why.</p> <p>A.</p> <table border="1" data-bbox="451 1395 695 1608"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>5</td> </tr> <tr> <td>3</td> <td>7</td> </tr> <tr> <td>4</td> <td>9</td> </tr> </tbody> </table> <p>B.</p> <table border="1" data-bbox="451 1025 695 1238"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>4</td> <td>4</td> </tr> <tr> <td>6</td> <td>6</td> </tr> <tr> <td>8</td> <td>8</td> </tr> </tbody> </table> <p>C.</p> <table border="1" data-bbox="451 651 704 855"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>5</td> </tr> <tr> <td>6</td> <td>10</td> </tr> <tr> <td>9</td> <td>12</td> </tr> <tr> <td>12</td> <td>24</td> </tr> </tbody> </table>	X	Y	1	3	2	5	3	7	4	9	X	Y	2	2	4	4	6	6	8	8	X	Y	3	5	6	10	9	12	12	24	<p>Slope: _____</p> <p>Y-intercept: _____</p> <p>X-intercept: _____</p> <p>Slope-intercept Form: _____</p>
X	Y																														
1	3																														
2	5																														
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4	9																														
X	Y																														
2	2																														
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8	8																														
X	Y																														
3	5																														
6	10																														
9	12																														
12	24																														
<p>Look at the graph, determine the slope, y-intercept, and x-intercept. Then write the equation for the line in y-intercept form.</p> 	<p>Study the scatter plot on the right. Circle any clusters and put an x on an outliers.</p> 																														
<p>Solve the system of equations by substitution.</p> $5x - y = 4$ $y = 3x$																															
<p>The area of a square is 169 square centimeters. Find the length of one of its side.</p>																															

Week Five

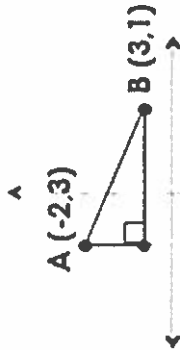
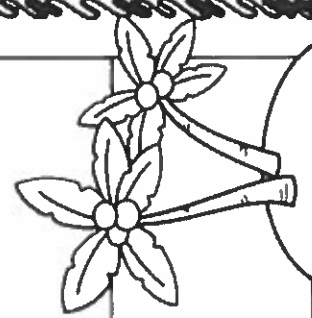


Problem	Work & Answer
<p>(6,3) and (12,6) are on the same line. Find the slope, y-intercept. Then write the equation of the line in slope-intercept form.</p> <p>8.E.4</p>	
<p>Simplify each expression using exponential notation.</p> <p>8.EE.1</p> <p>a.) $(5^3)(5^4)^5$ b.) $(9a^3)^2$</p>	
<p>Name the two integers each answer lies between.</p> <p>8.1.6.2</p> <p>a.) $\sqrt{54}$ b.) $\sqrt{12}$ c.) $\sqrt{149}$</p>	
<p>Solve the system of equations by graphing.</p> <p>$y = 3x + 2$ $y = -2x - 3$</p> <p>8.EE.6</p>	
<p>Lines x and y are parallel and cut by transversal line z. Find the measures of a, b, c and d.</p> <p>8.G.5</p> 	

Week Six

Problem	Work & Answer																
<p>Solve the system of equations using any method.</p> $.5x - 6y = -32$ $3x + 6y = 48$																	
<p>A glass shaped as a cylinder is filled to the top with water. The glass measures 16cm tall and has a diameter of 6cm. Find the volume of the water in the glass. Give your answer in terms of π.</p>																	
<p>Use the Pythagorean theorem to find the missing side length.</p> 																	
<p>Use the data in the table to create a scatter plot. Include the line of best fit. Circle any outliers.</p> <table border="1" data-bbox="987 959 1179 1761"> <tbody> <tr> <td>Temperature (degrees Fahrenheit)</td> <td>51</td> <td>75</td> <td>80</td> <td>89</td> <td>85</td> <td>93</td> <td>81</td> </tr> <tr> <td># of people at the beach</td> <td>2</td> <td>25</td> <td>30</td> <td>40</td> <td>36</td> <td>45</td> <td>32</td> </tr> </tbody> </table>	Temperature (degrees Fahrenheit)	51	75	80	89	85	93	81	# of people at the beach	2	25	30	40	36	45	32	
Temperature (degrees Fahrenheit)	51	75	80	89	85	93	81										
# of people at the beach	2	25	30	40	36	45	32										
<p>Solve for x. $3(10 - x) = -3x + 30$</p>																	

Week Seven

Problem	Work & Answer				
<p>Identify each equation as linear or nonlinear by writing it in the correct column in the table at the right.</p> <p>$x + 2y^2 = 10$ $y = -3x$ $y^2 = 5x$</p> <p>$y = x^2 + 1$ $y = -7$</p> <p>SEE 7</p>	<table border="1"> <thead> <tr> <th data-bbox="397 606 446 957">Linear</th> <th data-bbox="397 159 446 606">Nonlinear</th> </tr> </thead> <tbody> <tr> <td data-bbox="446 606 584 957"></td> <td data-bbox="446 159 584 606"></td> </tr> </tbody> </table>	Linear	Nonlinear		
Linear	Nonlinear				
<p>Solve for w.</p> $\frac{3w + 5w}{2} - 6 = 18$ <p>SEE 7</p>					
<p>Solve the system of equations using any method.</p> $y = -2x + 3$ $y = x - 6$ <p>SEE 8</p>					
<p>Use the Pythagorean theorem to find the distance between the two points A and B. Round your answer to the nearest hundredth.</p> <p>SEE 8</p>					
<p>A cheetah runs 75 miles per hour. It has already ran 150 miles. Write a linear equation that shows how far the cheetah will run in h hours. Let d stand for the total distance it will run.</p> <p>SEE 8</p>	 				

Summer Math Calendar Evaluation for Students

Please rate the following on a scale from 1-10, with 1 being the easiest and 10 being the hardest.

- 1.) _____ How would you rate the difficulty of the problems in general throughout the summer math calendar?
- 2.) _____ How would you rate the variety and amount of problems throughout the calendar?
- 3.) What types of problems in the calendar were the most difficult and why?
- 4.) What types of problems in the calendar were the easiest and why?
- 5.) When did you complete the calendar? How did you pace yourself when completing the calendar? (Did you do it every day, once a week, completed it in a few days?)
- 6.) If you could change anything about the summer math calendar what would you change and why?

Thank you for taking the time to complete this evaluation. I really appreciate your input!

Summer Math Calendar Evaluation for Parents

- 1.) How difficult did you feel this summer math calendar was for your student? Was it too easy or too difficult or somewhere in the middle?
- 2.) How much help did you give your son or daughter in completing this calendar?
- 3.) What would you say was the best thing about the summer math calendar?
- 4.) What would you say was the most difficult thing about the summer math calendar?
- 5.) How did you feel about the amount of problems given to your student?
- 6.) If you could change one thing about the summer math calendar in general, what would you change?

Thank you for taking the time to complete this evaluation.