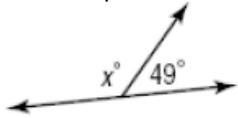


Summer Math Activities for Students Entering 8th Grade - June

<p>1. Go to: http://illuminations.nctm.org/Activity.aspx?id=4134 Use your knowledge of factors and Play the Factor Game against the computer. Player with the most tiles wins. Use a 10 row by 10 column game card.</p>	<p>2. Evaluate the expression $3H + 4$ for $H = -2, -4, -6,$ and -10. Use a table to summarize the work.</p>	<p>3. I have a machine that triples every number I put in and then subtract 7 from it. If 113 comes out, what number did I put in? If N is any number, write an expression to model what the machine does to N.</p>	<p>4. Wilma Wildcat is 7 years younger than Wilber Wildcat. If Wilber is Y years old, Write an expression to represent Wilma's age.</p>	<p>5. Go to: http://figurethis.nctm.org/challenges/c26/challenge.htm Complete the I Win! Math Challenge (#26). Is it a fair game? Explain</p>	<p>6. Sarah can drive 198 miles on 11 gallons of gasoline. On 6 gallons of gasoline, Rachel can travel 138 miles. Write a ratio that compares miles traveled per gallon of gasoline for each car. Do the cars get the same mileage?</p>	<p>7. Go to: http://illuminations.nctm.org/Activity.aspx?id=4095 Find the volume and surface area of a prism that measures $4 \times 5 \times 3$ units. Double the height of the prism and determine the effect on the volume and surface area</p>
<p>8. There were 6 girls and 18 boys in Mrs. Lansey's math class. Write a ratio of the number of girls to the number of boys in fraction, decimal and percent form.</p>	<p>9. Simplify a.) $72 \div 3 - 5(2.8) + 9$ b.) $(2 + 10)^2 \div 4$</p>	<p>10. Find the missing angle measure and identify the angle relationship.</p> 	<p>11. You have \$5 in your pocket and will earn \$4 for each hour you babysit, Write an equation to find how many hours you need to babysit in order to have enough money to buy a \$20 shirt?</p>	<p>12. Without parentheses, the expression $8 + 30 \div 2 + 4$ equals 27. Place parentheses in the expression so that it equals 13; then 23.</p>	<p>13. A quiche recipe calls for $2 \frac{3}{4}$ cups of grated cheese. A recipe for quesadillas requires $1 \frac{1}{3}$ cups of grated cheese. What is the total amount of grated cheese needed for both recipes?</p>	<p>14. According to the Pet Food Manufacturer's Association, 11 out of 25 people own large dogs and 13 out of 50 medium dogs. Do more people own large or medium dogs?</p>
<p>15. A ferris wheel has a diameter of 50 feet. How far will a passenger travel in one rotation of the ferris wheel? To the nearest foot.</p>	<p>16. It costs \$12 to attend a golf clinic with a local pro. Buckets of balls for practice during the clinic cost \$3 each. How many buckets can you buy at the clinic if you have \$30 to spend?</p>	<p>17. How much interest will Hannah earn in $4 \frac{1}{2}$ years if she deposits \$630 in a savings account at 6.5% simple interest? <i>Simple interest = (principal) (rate)(time in years)</i></p>	<p>18. A gardening expert recommends that flower bulbs be planted to a depth of three times their height. Suppose Jenna determines that a certain bulb should be planted at a depth of 4.5 inches. Write an equation to find the height of the bulb.</p>	<p>19. In Mongolia the temperature can dip down to -45°C in January. The temperature in July may reach 40°C. Model this on a number line and find the temperature range in Mongolia?</p>	<p>20. Find the area of a closet in your bedroom (or another room in your house). Now find the area of the entire room and calculate what fraction of the room is the closet.</p>	<p>21. World famous pastry chef, Chen Lee, is designing a birthday cake. He has 3 layers, all triangles. He wants to put the largest layer on the bottom and the smallest layer on the top. Determine the area of each layer and order them from largest to smallest Milk Chocolate $b = 12''$ $h = 6''$ Dark Chocolate $b = 4''$ $h = 17''$ White Chocolate $b = 9''$ $h = 9''$</p>

22.
Play a math thinking game like

**Yahtzee,
Mastermind,
Battleship,
Or
Mancala**

23.
Michael & Melissa both claim to be earning a B average, 80% to 89%, in their Spansih Class. Use the scores below to explain their reasoning and determine which student is earning a B average.
Michael's test scores: 90, 85, 80, 75, & 70
Melissa's test scores: 88, 86, 84, 85, & 82

24.
Go to:
<http://www.mathplayground.com/alienangles.html>

Estimate angle measures. You may need a protractor.

OR

Practice angle relationships @
http://www.mathplayground.com/geometry_quiz.html

25.
A submarine descends at a rate of 60 feet each minute. Write an equation to find how long will it take it to descend to a depth of 660 feet below the surface?

26.
Determine whether the pair of ratios is equivalent and forms a proportion.

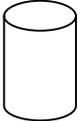
$$\frac{\$2.48}{4oz} = \frac{\$3.72}{6oz}$$

27.
On a map, the distance from Los Angeles to San Diego is 6.35 cm. The scale is 1 cm = 20 miles. What is the actual distance?

28.
Go to:
http://figurethis.nctm.org/challenges/challenge_index.htm

and complete Challenge #17 or #18 from the Challenge Index.

Summer Math Activities for Students Entering 8th Grade - July

<p>1. Justin is buying a cell phone that has a regular price of \$149. The cell phone is on sale for 15% off the regular price. What will be the sale price?</p>	<p>2. Evaluate the expression $4B - 3$ for $B = -3, -3.5, -4.25,$ -5.3 and $-6\frac{1}{9}$. Use an input - output table to summarize the work.</p>	<p>3. I have a machine that doubles every number I put in and then adds 5 to it. If 109 comes out, what number did I put in? If N is any number, write an expression to model what the machine does to N.</p>	<p>4. Wilma Wildcat sold U of A banners last week. Wilber Wildcat sold triple the amount of banners. If Wilma sold B banners, Write an expression to represent what Wilber sold.</p>	<p>5. Go to: http://figurethis.nctm.org/challenges/c63/challenge.htm Complete the I Win! Math Challenge (#63). Is it a fair game? Explain</p>	<p>6. In baseball, David has 10 hits out of 14 at bats. Adam has 15 hits out of 21 at bats. For each player, write a ratio that represents his total number of hits out of times at bat. Are these ratios equivalent?</p>	<p>7. The diameter of the circular base of this cylinder is 4 inches. The height is 10 inches. Find the surface area to the nearest tenth.</p> 
<p>8. Ms. Crest surveyed her class and found that 15 out of 25 students brushed their teeth more than twice a day. Write this ratio as a simplified fraction, decimal, and percent.</p>	<p>9. Evaluate a.) $-\sqrt{81}$ b.) -3^2 c.) $(-3)^2$ Are all the values the same? Why or Why not?</p>	<p>10. A side view of the Great Pyramid at Giza is shown below. The sides of the pyramid make an angle of 52° with respect to the ground. What is the value of x?</p> 	<p>11. Solve using properties of equality. a.) $2t + 7 = -1$ b.) $4s - 3.5 = 12.5$</p>	<p>12. Evaluate a.) $x^2 + y + z^3$ if $x = 3, y = -5.7,$ and $z = -2$ b.) $a - b$ if $a = -2.8$ and $b = -7.1$</p>	<p>13. Lois has $3\frac{1}{3}$ pounds of butter. She uses $\frac{3}{4}$ pound in a recipe. How much does she have left?</p>	<p>14. The original price of a coat was \$100. It was markdown to \$84 Determine the percent of change to the nearest tenth.</p>
<p>15. Esteban is helping his mom make a circular flower bed. The diameter of the flower bed is 12.5 feet. a) How much fencing will they need to buy to enclose the flower bed? b) They need to know the area of the flower bed in order to buy fertilizer. Find the area of the flower bed.</p>	<p>16. Your PE teacher asked you to run for specific time period. You ran 0.6 of the time. Two of your friends ran $\frac{7}{10}$ and 72% of the time. Order these relative amounts of time from least to greatest.</p>	<p>17. You are a real estate agent. For every house you sell you earn 3.8% commission. This month you sold 2 houses that had a combined total of \$560,950. How much commission will you earn?</p>	<p>18. The Washington Monument is 555 feet tall. It is 75 feet shorter than the Gateway to the West Arch. Write an equation that models the situation.</p>	<p>19. Hank skateboards at the top of a half pipe 10 feet above street level. He drops in to the bottom of the half pipe 6 feet below street level then rises 8 feet to do an aerial. Model the situation on a number line and as an expression</p>	<p>20. Go to: http://figurethis.nctm.org/challenges/c39/challenge.htm Complete the Patio Challenge (#39). Does a bigger perimeter mean a bigger area?</p>	<p>21. Arkansas has a shape that is similar to a trapezoid with bases of about 182 miles and 267 miles and a height of about 254 miles. Estimate the area of the state.</p> 

<p>22. Play a math thinking game like</p> <p style="text-align: center;">Yahtzee, Mastermind, or Battleship</p>	<p>23. Go to: http://illuminations.nctm.org/Activity.aspx?id=3580</p> <p>Explore the Electoral Votes from the data set drop down menu. Using the data answer the questions. 1.) "On average, how many electoral votes does each state have?" 2.) What states significantly influence the average? How so?</p>	<p>24. Go to: http://www.dr-mikes-math-games-for-kids.com/alices-cross-number-puzzle.html</p> <p>and check out Alice's cross number puzzle! You'll need a calculator.</p>	<p>25. An 12-ounce glass of orange juice contains 72 milligrams of vitamin C. How much juice contains 48 milligrams of vitamin C?</p>	<p>26. A packaging company needs to know how much cardboard will be required to make boxes 18 inches long, 12 inches wide, and 10 inches high. How much cardboard will be needed for each box if there is no overlap in the construction?</p>	<p>27. Mr. Brooks was working on addition using dominoes with a group of 1st graders. When picking the domino with 3 dots on one end and 5 dots on the other, some students read. "3 plus 5 equals 8" while other read it as "5 plus 3 equals 8." What property were these students using? Explain.</p>	<p>28. Go to: http://illuminations.nctm.org/nameletters/</p> <p>Explore Miss Spelling class and how much chocolate letters cost. If you were one of Miss Spelling's students, how much would your name cost?</p>
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