

1. There are 12 eggs in a carton, 8 cartons in a crate, and 9 crates in a container. How many eggs are in a container?	864 eggs
2. Simplify $x+2+x+2+x+2+x+2+x+2+x+2$	$6x+12$
3. What is the smallest 3-digit number that can be obtained from 4921508 by crossing out 4 digits? Keep the digits in their original order.	108
4. Solve for x : $12x-6x=3$	$x = \frac{1}{2}$ or 0.5
5. Arrange the following three numbers in increasing order. $\frac{2}{3}$ 0.6666 0.67	Smallest - 0.6666 Middle - $\frac{2}{3}$ Largest - 0.67
6. Expand $(x+1)(x+2)$.	$2+3x+x^2$ or x^2+3x+2
7. What is the area of a circle whose radius is 0.3 miles? Express your answer as a multiple of π .	$0.09\pi \text{ miles}^2$
8. Simplify $\frac{1}{2+\frac{1}{1+\frac{1}{\frac{1}{2}}}}$	$\frac{3}{10}$
9. Eleven girls are standing around a circle. A ball is thrown clockwise around the circle. The first girl, Ami, starts with the ball, skips the next three girls and throws the ball to the fifth girl, who then skips the next three girls and throws the ball to the ninth girl. If the pattern continues, including Ami's initial throw, how many throws occur before the ball returns to Ami?	11
10. Before you are able to take a bite of your chocolate bar, a friend comes along and takes $\frac{1}{4}$ of the bar. Then another friend comes along, and takes $\frac{1}{3}$ of what is left. You quickly eat the remainder before anyone else comes by. How much of the original chocolate bar did you get to eat?	$\frac{1}{2}$ or 0.5
11. When k is multiplied by 5 and then 35 is added to the product, the result is 100. What is the value of k ?	13
12. What percent decrease occurs when a stock drops from \$6.40 per share to \$4.80? Round to the nearest whole percent.	25%
13. The hands of a clock point in exactly the same direction at noon and at midnight. How many other times during a day do the hands of a clock point in the same direction?	20
14. Solve $\frac{2}{3}(3x+14)=7x+6$ for x .	$x = \frac{2}{3}$ or 0.667
15. Combine over a common denominator $\frac{1}{a} + \frac{2}{3a} + 3$.	$\frac{5+9a}{3a}$

16. If $2^x = 8$, what is the value of x^x ?	27
17. Five of the following six expressions are equivalent. Which one is not equivalent to the other five? $c-b+a$; $b-(c-a)$; $c-(b-a)$; $c+a-b$; $a-(b-c)$; $a-b+c$	$b-(c-a)$
18. A rectangular wall is being covered with 4-inch by 4-inch square tiles. How many tiles are needed to completely cover a wall that is 5 feet by 7 feet?	315 tiles
19. Robert's average for the first 5 statistics tests was exactly 68. What must he make on the 6 th exam to earn a 70 average?	80
20. If $a! = a(a-1)(a-2)\cdots(2)(1)$, find the value of $\frac{(n+1)!}{(n-1)!}$ when $n=100$.	10,100
21. On a potato farm, 6 people can fill 24 sacks of potatoes in 8 minutes. How many sacks can 7 people fill in 6 minutes?	21 sacks
22. If $\sqrt{k} = \sqrt{2} + \sqrt{2} + \sqrt{2}$, what is k ?	18
23. In a warehouse there are 563 kilograms of wheat. After we put an equal amount of wheat in several containers there are 143 kilograms remaining. If we add 5 kilograms more into each container there are 3 kilograms remaining. How much wheat is in each container (including the original amount and the five kilograms)?	20 kg
24. Paisano's Pizza Place sells a 6-inch diameter pizza for \$6, an 8-inch diameter pizza for \$8, and a 10-inch diameter pizza for \$10. Which is the best buy?	10 in
25. What is the smallest positive integer greater than 1 which when divided by 2, or 3, or 5, or 6, or 20 has a remainder of 1 in each case.	61
26. The measures of the four interior angles of a quadrilateral are $4x$, $3x+20$, $2x+40$ and $x+80$ degrees. What is the measure of the smallest interior angle of the quadrilateral?	84°
27. k is an unknown number between -4 and -5. Arrange the following numbers in increasing order. $-k+5$ $\frac{k+4}{2}$ $\frac{k+2}{2}$	$smallest = \frac{k+2}{2}$ $middle = \frac{k+4}{2}$ $largest = -k+5$
28. The perimeter of a rectangle is 22 inches, and the area is 28 square inches. What is the product of the lengths of the diagonals, in square inches?	65 in^2
29. Given that $72 \leq n \leq 1296$ and $24 \leq d \leq 36$, what are the largest and smallest values that the expression $\frac{n}{d}$ can possibly have? Write your answers in the form $smallest \leq \frac{n}{d} \leq largest$.	$2 \leq \frac{n}{d} \leq 54$
30. A train is leaving the station in 11 minutes. You are 1 mile from the station. Assuming you can walk at 4 mph and run at 8 mph, how many minutes can you afford to walk before you must begin to run in order to catch the train?	7 minutes

Turn to the next page for the tie-breaker question

Tie-Breaker: For what values of x is the following inequality true: $|x-1| \geq \frac{1}{2}x+5$? **Show your work.**

Place a box around your answer.

**10th Annual
Oklahoma School of Science and Mathematics
Middle School Mathematics: An Awesome Contest
February 25, 2012**



NAME: (Please print) <hr/>	AGE	DATE OF BIRTH mm/dd/yy __ / __ / __	GRADE LEVEL 6
Email <hr/>			
SCORE (For official use) L: _____ R: _____ Total: _____ TB: Y N	GENDER (Circle one) M F	HOME ADDRESS (Please print) Street _____ City _____ Zip _____ School _____	
Parents' names: (Please print)			

Directions: Use the scratch paper provided to do your work. Calculators are allowed, but not necessary. Write the answer(s) to each question in the box to the right of the question. All fractions should be in simplest form (use improper fractions instead of mixed numbers). Round decimal answers to three decimal places. Units are not necessary unless specifically requested in the problem.

This is a 31-question, 1-hour contest. The 31st question is on the last page and it will be used to break ties. You must show your work on the 31st question. Each question is worth one point. Your score will be the number of correct answers (excluding the tie-breaker). There is no partial credit or penalty for wrong answers. Please continue working or reworking problems until time is called.

Do Not Open or Turn Over Until Instructed To Do So