

"Math is Cool" Championships - 2011-12

Sponsored by:

6th Grade - February 3, 2012

Team Contest

1	An elephant can drink 48 cups of water per minute. How many gallons of water can an elephant drink in 3 minutes?
2	In a 6th-grade math class of 21 students, the ratio of boys to girls is 3 to 4. How many boys are there in the class?
3	Amanda read for one and three-quarter hours without stopping. If she finished reading at 2:34 PM, at what time did she start reading?
4	A square number is the product of a counting number times itself. How many square numbers less than 150 have a units (one's place) digit less than 5?
5	Bert threw a ball 12 yards, and Ernie threw a ball 8.4 meters. Assuming one meter is equal to 39 inches, how many <u>feet</u> farther did Bert throw than Ernie? If your answer is not a whole number of feet, give it as a decimal.
6	What is $23\frac{1}{4}$ expressed as a percent?
7	Emeril has two round baking pans: a red one of diameter 8 inches and a green one of diameter 9 inches. He has a blue rectangular pan that is 7 by 11 inches, a black square pan of side length 9 inches, and a white square pan of side length 8 inches. All the pans have the same depth. Give the colors of the two pans that are closest in volume.
8	Determine the smallest counting number that satisfies the following conditions: <ul style="list-style-type: none">- Divide 7 into this number and you get a remainder of 4.- Divide 8 into this number and you get a remainder of 5.- Divide 9 into this number and you get a remainder of 6.
9	I have one quarter, two dimes, three nickels, and two pennies. If I take out two of these coins at random, what is the probability that their total value will be six cents? Answer as a reduced fraction.
10	Laura used all the digits except 0 to write a 9-digit counting number such that no two consecutive digits form a 2-digit prime number. (That is, for the number abc,def,ghi , where letters stand for unique digits, none of the following 2-digit numbers are prime: $ab, bc, cd, de, ef, fg, gh, hi$.) What is the positive difference between the largest and smallest such numbers that Laura could write?