

Online Math League
2009 – 2010 Sixth Grade Contest #1

Student Name _____ Date _____

Rules: You have 30 minutes to complete this test. You must work independently, and calculators and other reference tools are not permitted. Each question has exactly one right answer. Do your best!

1. For a certain college football game, 75,000 tickets were sold. If 3,804 of the people who bought tickets never showed up, how many people who bought tickets actually attended the game?

- A. 69,294 B. 71,183 C. 71,184 D. 71,196 E. 72,816

2. On a big math test, there were 90 questions. Jack got 30% of the questions wrong. How many questions did Jack get right?

- A. 30 B. 60. C. 63 D. 66 E. 67

3. Bob buys a television for \$1,400. He also must pay a 6% sales tax (that is, an extra 6¢ in tax for every dollar that the television cost), which is added to the \$1,400 price of the television. If he pays with fifteen \$100 bills, how much change should Bob get back?

- A. \$12 B. \$14 C. \$16 D. \$18 E. \$20

4. Since there are two pints in a quart and four quarts in a gallon, how many pints are in 16 gallons?

- A. 8 B. 32 C. 64 D. 96 E. 128

5. Jane started reading a new book. On Saturday she read one-third of the book. On Sunday she read another one-fifth of the book. How much of the book did she have left to read?

- A. $\frac{7}{15}$ B. $\frac{8}{15}$ C. $\frac{3}{8}$ D. $\frac{1}{8}$ E. $\frac{1}{2}$

6. If you toss a pair of normal, 6-sided dice, what is the probability that they will add up to exactly 10?

- A. $\frac{1}{36}$ B. $\frac{1}{18}$ C. $\frac{1}{12}$ D. $\frac{1}{9}$ E. $\frac{5}{36}$

7. If the area of a certain square is 118 square inches, each side of that square must be how long?

- A. Between 5 and 6 inches B. Between 8 and 9 inches
C. Between 9 and 10 inches D. Between 10 and 11 inches
E. Between 11 and 12 inches

8. In a certain town, 600 people were surveyed about which they liked better, Pepsi or Coke. If 42% of those surveyed said they prefer Pepsi, how many said they prefer Coke?

- A. 324 B. 330 C. 336 D. 342 E. 348

9. The perimeter of triangle ABC is $13\frac{7}{8}$ centimeters. If side AB is $4\frac{1}{2}$ cm long, and side AC is $5\frac{1}{4}$ cm long, how long is side BC?
- A. $3\frac{6}{8}$ cm B. $4\frac{5}{2}$ cm C. $4\frac{1}{8}$ cm D. $4\frac{3}{8}$ cm E. $4\frac{5}{8}$ cm
10. A large family of 9 decided to go to a football game. Adult tickets to the game cost \$16 and child tickets cost \$9. If they spent \$116, how many child tickets did they buy?
- A. 3 B. 4 C. 5 D. 6 E. 7
11. Julia is running a 3.1-mile race. If she has already completed $1\frac{4}{5}$ miles of the race, how many miles does she have yet to go?
- A. 1.25 B. 1.3 C. 1.35 D. 1.4 E. 1.45
12. If Larry is averaging exactly 31 points per game after playing 27 basketball games, how many total points did he score in those 27 games?
- A. 680 B. 1,020 C. 944 D. 876 E. 837
13. What is the sum of all of the factors of 48? (Include 1 and 48 as factors.)
- A. 105 B. 108 C. 110 D. 124 E. 129
14. If $0.21 + 0.148 + 1.4 + n = 2$, what is the value of n ?
- A. 0.142 B. 0.192 C. 0.242 D. 0.292 E. 0.342
15. If a right triangle has an angle of 42° , then which of these is also an angle of that triangle?
- A. 52° B. 48° C. 42° D. 36° E. 93°

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Answer Key, 2009-2010 Sixth Grade Contest #1

1. **D** (The first question on every Online Math League test involves a topic the students should be comfortable with, as we want to begin each test on a positive note. In this case, we've chosen a straightforward subtraction problem with regrouping.)
2. **C**
3. **C**
4. **E**
5. **A**
6. **C** (There are 36 possible outcomes when rolling two dice. The only possible combinations that sum exactly 10 are 4 and 6, 5 and 5, and 6 and 4.)
7. **D** (The area of a square is simply the length of any side squared. Since 10 squared is 100 and 11 squared is 121, the length of each side in a square with area 118 square inches must be between 10 and 11 inches.)
8. **E**
9. **C** (The lengths of the two sides given, AB and AC, sum to $9\frac{6}{8}$ cm. To get to a total of $13\frac{7}{8}$ cm., the final side must be $4\frac{1}{8}$ cm.)
10. **B** (There must have been five adults and four children.)
11. **B**
12. **E**
13. **D** (There are ten factors of 48, and added together, $1 + 2 + 3 + 4 + 6 + 8 + 12 + 16 + 24 + 48 = 124$.)
14. **C**
15. **B**