Cullman Middle School Math Tournament
2012 6th Grade Test

1. What is the probability of flipping a coin 6 times and getting 6 heads in a row?
   A. 1/6 B. 6 C. 1/64 D. 1/15,625

2. If a = 3, b = 11 and c = 5, find $(a + c)^2 + 6b$.
   A. 82 B. 130 C. 33 D. 262

3. Find the sum of the median and mode of the following CMS soccer scores:
   5, 4, 5, 9, 8, 9, 4, 9, 2, 10
   A. 11.4 B. 14.5 C. 15.4 D. 15.5

4. Find the millionths digit in the decimal form of 1/7.
   A. 8 B. 5 C. 7 D. 1

5. If today is Saturday, what day of the week will it by in 170 days?
   A. Friday B. Saturday C. Sunday D. Monday

6. Find the area of a triangle formed by the vertices (0,0), (0,6) and (8,0).
   A. 14 B. 24 C. 48 D. 100

7. A chime clock strikes 1 chime at one o'clock, 2 chimes at two o'clock, 3 chimes at three o'clock and so on. What is the total number of chimes that will strike in a twelve hour period?
   A. 12 B. 24 C. 144 D. 156

8. Which of the following angles are supplementary?
   A. 45, 45 B. 45, 50 C. 80, 100 D. 100, 260

9. If 5x – 20 = - 40 and 5y = 1, find 5x + 5y.
   A. 19 B. – 19 C. 21 D. – 21

10. The math team parents send 3 dozen donuts and 2 gallons of milk for a breakfast treat. How many cups of milk are in 2 gallons?
    A. 8 B. 16 C. 32 D. 36

11. For Will's birthday, his mom baked her famous chocolate chip cake. Will's friends Emma, Emily and Peyton ate 1/3, 1/6 and 1/4 of the cake. What fraction was left for Will?
    A. 1/8 B. 1/12 C. 3/4 D. 1/4

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12. The letters in the word ALABAMA are written on cards and placed in a hat. What is the probability of choosing an A, then another A without replacement?
    A. 2/7 B. 3/7 C. 4/7 D. 1/2

13. If L = the least common multiple of 14 and 21 and G = the greatest common factor of 14, 28 and 56, find L + G.
    A. 49 B. 56 C. 14 D. 63

14. A train moving at a constant speed travels 180 miles in 4 hours. How many miles will the train travel in 7 hours?

A. 360 miles B. 315 miles C. 280 miles D. 420 miles

15. By how much does $3^2 + 3^3 + 4^2$ exceed the product of 3, 4 and 4?
A. 25 B. 3 C. 2 D. 4

16. Simplify: $30 – 2(12 \div 2 + 1)$.
A. 196 B. 16 C. 22 D. 112

17. Simplify and write in standard notation: $\frac{3.4\times10^5}{1.7\times10^2}$

A. 2 B. 20 C. 200 D. 2000

18. Which point is four units up and seven units right of the point (–4, 3)?
A. (3, 7) B. (0, 10) C. (0, –4) D. (3, –1)

19. Find the sum of the exponents in the prime factorization of 1700.
A. 17 B. 2 C. 4 D. 5

20. If the surface area of a cube is 216 cm^2, find its volume.
A. 6 cm^3 B. 36 cm^3 C. 216 cm^3 D. 10077696 cm^3

21. If $x \Delta y = 2x^2 + 3y^2$, find $4 \Delta 5$.
A. 46 B. 107 C. 289 D. 100

22. Mary Beth bought a Kavu purse at Purses R Us for $24 after a 25% discount. What was the original price of the purse?
A. $18 B. $30 C. $36 D. $48

23. Multiply 2 ½ by the reciprocal of 2 ½ .
A. 1 B. 6 ¼ C. 12 ½ D. 25

24. If S = seconds in two minutes, T = sum of angles in a triangle, P = number of sides in a pentagon, A = number of angles in a heptagon, R = number of degrees in a right angle, I = number of sides in an icosagon, C = sum of complementary angles and K = 17, find S + T + P + A + T + R + I + C + K.
A. B. C. 528 D. 529

25. Considering the factors of 48, what is the ratio of prime factors to composite factors?
A. 2/7 B. 3/7 C. 2/9 D. 1/4

Tiebreakers: Please write the tiebreaker answers in the top margins on the back of your Scantron.

Tiebreaker 1: $- 5^0 – 5^1 – 5^2 – (- 5)^3$
Tiebreaker 2: How many prime numbers are there between 1 and 50?
Tiebreaker 3: Simplify $24 \div 2 \bullet 6 \div 3 \bullet 18 \div 9$

Turn in the pink Scantron answer sheet to the monitor. You may keep the test.