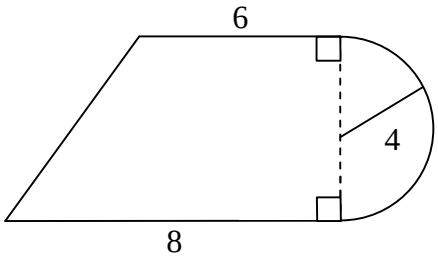
Muscle Shoals Middle School Math Tournament
Sixth Grade Written Test
January 24, 2009

1. The average cost of five items is \$95.75. Four of the items cost \$38.15, \$102.43, \$145.64, and \$101.84. Find the cost of the fifth item.
   a. \$112.73 b. \$74.15 c. \$97.02 d. \$90.69

2. Divide two and seventeen hundredths by seven tenths
   a. 3.01 b. 31 c. 3.1 d. 0.301

3. What is the area of this figure? Dimensions are in units. Use 3.14 for π.



   a. 90.24 units^2 b. 114.24 units^2 c. 70.24 units^2 d. 81.12 units^2

4. Multiply $(2.5 \bullet 10^{-2}) \bullet (8 \bullet 10^{6})$
   a. $2 \bullet 10^{5}$ b. $20 \bullet 10^{7}$ c. 2 d. $2 \bullet 10^{6}$

5. How many prime factors does 4524 have?
   a. 3 b. 5 c. 4 d. 7

6. Find 180% of 121.
   a. 21.78 b. 234.8 c. 225.8 d. 217.8

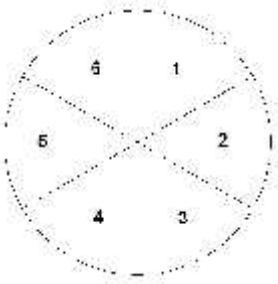
7. What is $\frac{5}{12}$ as a decimal number?
   a. $0.4\overline{6}$ b. $0.041\overline{6}$ c. $0.41\overline{6}$ d. $41\overline{6}$

8. Spinner A is spun, and then Spinner B is spun. What is the probability of landing on 2 both times?

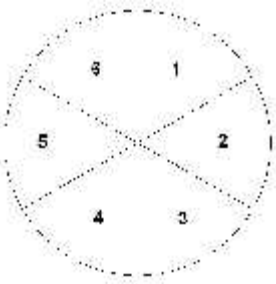
   a. $\frac{1}{36}$ b. $\frac{1}{42}$

   c. $\frac{1}{2}$ d. $\frac{1}{18}$

Spinner A



Spinner B



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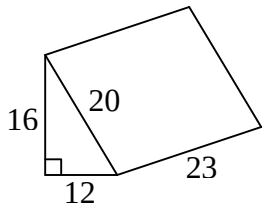
9. Add 1000 (base 2) + 110100 (base 2).
   a. 1111101 b. 111100 c. 101000 d. 10000

10. Simplify -5(-3 – 5 • 4) + 4 [(-2 + 3) 3 – 3]
   a. 115 b. 104 c. 120 d. 108

11. Nine and three fifths of $5\frac{2}{3}$ is what number?
   a. $\frac{227}{5}$ b. $\frac{256}{5}$ c. $\frac{288}{5}$ d. $\frac{272}{5}$

12. Find the surface area of this right solid.



   a. 1295 units^2 b. 1296 units^2 c. 1920 units^2 d. 2208 units^2

13. Eighty and one half percent of the students wore sweaters today. If there were 800 students at school today, how many were wearing sweaters?
   a. 6440 b. 644 c. 646 d. 65

14. In what quadrant is the point (-3, 7) located?
   a. I b. II c. III d. IV

15. Find the positive difference between the GCF and the LCM of 48 and 64.
   a. 192 b. 128 c. 180 d. 176

16. 5! =
   a. 5 b. 25 c. 120 d. 150

17. Hannah bought 2 pairs of shoes for $28.75 each and a purse for $30.00. She also paid 6% sales tax. If she paid with a $100 bill, how much change did she receive?
   a. $9.25 b. $7.25 c. $5.25 d. $10.50

18. $\dfrac{\frac{45}{54} \bullet \frac{36}{5}}{\frac{42}{9}} =$
   a. $\frac{9}{7}$ b. 28 c. $\frac{7}{9}$ d. $\frac{1}{28}$

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19. $\sqrt{80-31}-\sqrt{85-21}$
    a. 1 b. -1 c. 5 d. -5

20. In a group of 150 students, 40% are Auburn fans and the rest are Bama fans. What is the reduced ratio of Bama to Auburn fans?
    a. 3:2 b. 2:3 c. 5:6 d. 6:5

21. Number of sides in a decagon – number of sides in a hexagon + number of sides in a triangle x number of sides in a quadrilateral =
    a. 28 b. 16 c. 5 d. 14

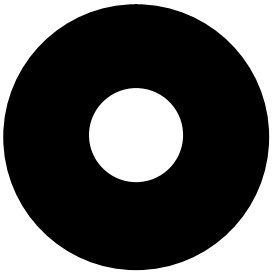
22. Julia is arranging her 4 trophies on her shelf. In how many ways can she arrange the trophies in a row?
    a. 16 b. 10 c. 20 d. 24

23. Twenty telephone poles are placed in a straight line. The distance between any two consecutive poles is 4 meters. What is the distance between the first and 10th pole?
    a. 36 m b. 40 m c. 44 m d. 80 m

24. If a x b = 72 and a – b = 71, then a + b = ____
    a. 17 b. 27 c. 18 d. 73

25. A clock that uniformly loses 4 minutes every 24 hours was correctly set at 6 a.m. on January 1. What was the time indicated by this clock when the correct time was 12 o'clock noon on January 6 of the same year?
    a. 11:36 am b. 11:38 am c. 11:39 am d. 11:40 am

TB1 A man needs six pieces of wire, each 218 cm. long. Wire is sold by the meter. How many meters of wire must the man buy?

TB2 If Carl types one page each minute and Carole types three pages each minute, in how long will Carl be 100 pages behind Carole?

TB3 The two circles have the same center. A radius of the larger circle is 5 and a radius of the smaller circle is 2. The area of the shaded region is?