

NAME _____

SCHOOL _____

2009 Middle School Math Festival

Individual Round: ML Course 2

1. Calculate the product: $(0.5)(10)(1)$

- A. 6 B. 5 C. 11.5 D. 10.5

2. Estimate the solution of the equation $x - 8.3 = 8.9$, rounded to the nearest whole number.

- A. 2 B. 1 C. 18 D. 17

3. Which number is divisible by 3?

- A. 275 B. 1,438 C. 3,842 D. 7,221

4. Find the LCM of 20 and 24.

- A. 120 B. 480 C. 240 D. 4

5. Write the fraction as a decimal: $\frac{5}{16}$

- A. $0.\overline{3125}$ B. 0.3125 C. $0.\overline{31}$ D. $0.3\overline{125}$

6. Order from least to greatest: $-0.36, -0.\overline{65}, -\frac{8}{15}, \frac{1}{5}$

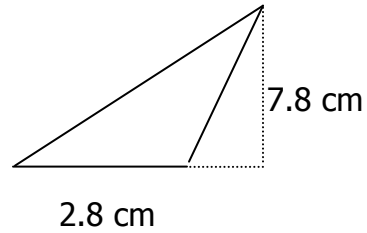
- A. $-0.36, -0.\overline{65}, -\frac{8}{15}, \frac{1}{5}$ C. $-0.\overline{65}, -\frac{8}{15}, -0.36, \frac{1}{5}$
B. $\frac{1}{5}, -0.36, -\frac{8}{15}, -0.\overline{65}$ D. $\frac{1}{5}, -0.\overline{65}, -\frac{8}{15}, -0.36$

7. You travel 209 kilometers in 5 hours. Write the unit rate. Round to the nearest hundredth.

- A. 34.83 km/hr B. 0.02 km/hr C. 52.25 km/hr D. 41.80 km/hr

8. Find the area of the triangle.

- A. 10.92 cm^2 C. 21.84 cm^2
 B. 21.2 cm^2 D. 10.6 cm^2



9. Find three solutions of the equation: $y = -2x$

- A. $(0, 0)$, $(3, -8)$, $(-2, 4)$ C. $(-2, 4)$, $(1, -2)$, $(0, 0)$
 B. $(1, -2)$, $(0, 0)$, $(-1, 1)$ D. $(-2, 4)$, $(1, -2)$, $(2, -3)$

10. A barrel contains 7 blue, 5 yellow, 8 red, 4 green, and 6 purple marbles. What is the probability of randomly picking a marble and it is NOT yellow?

- A. $\frac{1}{30}$ B. $\frac{5}{6}$ C. $\frac{2}{15}$ D. $\frac{1}{6}$

11. Rubber stripping for a trailer must be 6.96 meters long. You have a 57.5 meter length of rubber stripping. Estimate how many pieces can be cut from this strip?

- A. 9 B. 7 C. 10 D. 8

12. Each floor of a 229.5-foot high building is 13.5 feet tall. How many floors does the building have?

- A. 16 floors B. 21 floors C. 19 floors D. 17 floors

13. Find the difference: $96 - 76.46$

- A. 19.54 B. 18.54 C. 20.46 D. 20.54

Individual Round (2009): ML Course 2

14. A triangle has 3 sides which measure $5\frac{1}{4}$ ft, $2\frac{5}{6}$ ft, and $8\frac{7}{12}$ ft. What is the perimeter?

A. $16\frac{1}{12}$ ft

B. $16\frac{2}{3}$ ft

C. $15\frac{13}{22}$ ft

D. $15\frac{2}{3}$ ft

15. Evaluate the expression: $\frac{54}{21} \div \frac{6}{7}$

A. $2\frac{10}{49}$

B. 3

C. $2\frac{24}{49}$

D. $\frac{1}{3}$

16. Solve for b : $\frac{2}{5}b - 5 = 15$

A. 50

B. 25

C. 20

D. 8

17. Solve for x : $x + \frac{3}{4} = \frac{17}{18}$

A. 1

B. $\frac{7}{36}$

C. $\frac{10}{11}$

D. $1\frac{25}{36}$

18. Mariah sold her skates. First, she tried to sell them at half of the price she originally paid. A week later, she took \$14 off the asking price. A week later, she lowered the price an additional \$4 and finally sold the skates for \$31. What was the original price?

A. \$94

B. \$80

C. \$49

D. \$98

19. A dinner bill costs \$130.56 and you tell your parents you would like to pay a 15% tip. How much of a tip should you leave?

A. \$15.75

B. \$22.30

C. \$19.60

D. \$20.15

Individual Round (2009): ML Course 2

20. One angle measures 30° . What does its complementary angle measure?
- A. 60° B. 70° C. 150° D. 75°
21. The measures of two angle of a triangle are 14° and 29° . Find the measure of the third angle.
- A. 137° B. 43° C. 15° D. 47°
22. Find the area of a parallelogram with a base of 95 cm and a height of 9.6 cm.
- A. 456 cm^2 B. 912 cm^2 C. 92.16 cm^2 D. $9,025 \text{ cm}^2$
23. Find the area of a trapezoid with $b_1 = 13.8 \text{ cm}$, $b_2 = 16.8$, and $h = 4 \text{ cm}$.
- A. 33.6 cm^2 B. 122.4 cm^2 C. 61.2 cm^2 D. 27.6 cm^2
24. A right triangle has one leg of 6 and the hypotenuse of 18. To the nearest whole number, how long is the other leg?
- A. 17 B. 288 C. 19 D. 36
25. Find the total surface area of a rectangular prism with a length of 5, a width of 12, and a height of 9.
- A. 213 B. 336 C. 540 D. 426
26. Evaluate $(c - b)^2 + a^2$ for $a = -5$, $b = -2$, and $c = -4$.
- A. 17 B. 61 C. 37 D. 29
27. Find the sum: $\frac{1}{6} + \frac{3}{8} + \frac{3}{4}$
- A. $\frac{7}{8}$ B. $1\frac{7}{24}$ C. $1\frac{3}{8}$ D. $\frac{7}{8}$

Individual Round (2009): ML Course 2

28. Evaluate $a - b + c$ for $a = 4\frac{1}{5}$, $b = 2\frac{7}{20}$, and $c = 3\frac{1}{4}$.

A. $5\frac{1}{10}$

B. $5\frac{2}{5}$

C. $9\frac{4}{5}$

D. $2\frac{1}{10}$

29. What is the area of a right triangle with a hypotenuse of 34 cm and two legs of 16 cm and 30 cm.

A. 272 cm^2

B. 80 cm^2

C. 240 cm^2

D. 480 cm^2

30. A bowl has slips of paper with numbers from 2 to 14, with no numbers repeated. What are the odds against picking a prime number?

A. 7 to 6

B. 6 to 7

C. 7 to 13

D. 6 to 13