

2008 Middle School Math Festival**Individual Round: ML Course 2**

1. What place value is the underlined figure? 96,354

- A. hundred B. thousand C. hundred thousand D. ten thousand

2. Ponzi saves dimes and quarters. She has 12 coins which add up to \$1.80. How many quarters does she have?

- A. 4 quarters B. 8 quarters C. 16 quarters D. 20 quarters

3. Calculate $28 \div 36$

- A. $0.\overline{7}$ B. 0.8 C. 1.8 D. 1.826

4. The cost of school banquet is $\$50 + 30n$, where n is the number of people attending. What is the cost for 114 people?

- A. \$9,120 B. \$194 C. \$3,470 D. \$392

5. Solve for x : $x - 5 = 6$

- A. -1 B. 11 C. 1 D. -11

6. Find the prime factorization of 540.

- A. $2^2 \times 3^3 \times 10$ B. $2 \times 3^3 \times 5^3$ C. $2^2 \times 3^3 \times 5$ D. $2^2 \times 3^4 \times 5$

7. Compare these pair of fractions: $\frac{2}{3} \square \frac{33}{50}$

- A. $\frac{2}{3} > \frac{33}{50}$ B. $\frac{2}{3} = \frac{33}{50}$ C. $\frac{2}{3} < \frac{33}{50}$ D. Cannot determine

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8. Calculate $7\frac{1}{2} - 6\frac{3}{10}$.

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

B. $1\frac{1}{4}$

C. $13\frac{4}{5}$

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

9. Calculate $-8 - (-7)$

A. 1

B. -1

C. 15

D. -15

10. Sal paints a wall in art class. He uses $\frac{2}{3}$ gallon of blue paint and $\frac{1}{5}$ gallon of white paint. How much paint does he use?

A. $\frac{3}{8}$ gallon

B. 1 gallon

C. $\frac{7}{15}$ gallon

D. $\frac{13}{15}$ gallon

11. What is the elapsed time from 7:16 A.M. to 4:27 P.M.?

A. 8 hr 11 min

B. 9 hr 23 min

C. 9 hr 11 min

D. 10 hr 23 min

12. How many feet are in $10\frac{1}{6}$ yards?

A. $30\frac{1}{2}$

B. 366

C. 122

D. $30\frac{1}{6}$

13. A van travels 180 miles on 6 gallons of gas. At the same rate, how many gallons of gas are needed to travel 750 miles?

A. 75 gallons

B. 25 gallons

C. 50 gallons

D. 225 gallons

14. Calculate 59% of 11.

A. 0.649

B. 7

C. 649

D. 6.49

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15. Estimate a 15% tip for a \$21.50 restaurant bill.

- A. \$2.25 B. \$3.25 C. \$24.75 D. \$325.00

16. Find the complement of an angle with measure 54° .

- A. 144° B. 234° C. 36° D. 126°

17. Find the area of a triangle with a base of 74 feet and a height of 17 feet.

- A. 91 ft^2 B. 148 ft^2 C. 182 ft^2 D. 629 ft^2

18. Estimate the area of a circle with a diameter of 48 meters.

- A. 1800 m^2 B. 150 m^2 C. 75 m^2 D. 7200 m^2

19. What is the total surface area of a rectangular prism with $l = 15.5$, $w = 16.5$, and $h = 4.5$?

- A. 799.5 B. 2,301.75 C. 73 D. 575.4

20. Which two consecutive whole numbers is $\sqrt{74}$ between?

- A. 7 and 8 B. 8 and 9 C. 9 and 10 D. 10 and 11

21. Suzanne needs material for a school project. She buys 2.75 yards of material which costs \$5.84 per yard. What is the total cost (to the nearest cent)?

- A. \$8.59 B. \$16.06 C. \$11.59 D. \$13.75

22. Use $<$, $=$, or $>$ to make the following statement true: $11 - 6 \times 1.4$ $(11 - 6) \times 1.4$

- A. $<$ B. $=$ C. $>$ D. Cannot determine

23. Test 75,243 for divisibility by 2, 3, 5, 9, and 10.

- A. 3 B. 3, 5 C. 3, 5, 10 D. 3, 9

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24. An “A” train leaves a subway station every 12 minutes. An “E” train leaves every 9 minutes. If both trains just left the station on parallel tracks, when will they both leave the station together again?

- A. in 108 minutes B. in 36 minutes C. in 72 minutes D. in 24 minutes

25. Nicole’s friend, Jessie, runs $\frac{4}{9}$ of a mile, but Jessie’s distance is only $\frac{4}{5}$ of Nicole’s distance. How far did Nicole run?

- A. $\frac{9}{5}$ mile B. $\frac{5}{9}$ mile C. $\frac{45}{16}$ mile D. $\frac{16}{45}$ mile

26. A lawn trimmer on sale for 45% off. The sales price is \$200. What was the approximate original price?

- A. \$290 B. \$310 C. \$365 D. \$445

27. Find the mean of the data set, rounded to the nearest tenth. {18.1, 17.9, 16.8, 18.7, 15.1}

- A. 17.9 B. 21.7 C. 14.4 D. 17.3

28. Find the median of the data set. $\left\{\frac{1}{2}, \frac{1}{8}, \frac{5}{6}, \frac{3}{10}, \frac{7}{12}\right\}$

- A. $\frac{3}{10}$ B. $\frac{7}{12}$ C. $\frac{1}{2}$ D. $\frac{281}{240}$

29. A sunflower was 1.8 meters tall one week ago. In 7 days, it grew 12 centimeters. What is the current height of the sunflower?

- A. 1.8 meters B. 10.2 meters C. 13.8 meters D. 1.92 meters

30. How many square inches are in one square foot?

- A. 24 in^2 B. 144 in^2 C. 48 in^2 D. 12 in^2