



Magic of Mothers
Math Mania
Level 2

Name:

Sr. Number: MM2-xxx

1. A bat and a ball cost a dollar and ten cents in total. The bat cost a dollar more than the ball. How much does the ball cost?
- A. 10 cents
 - B. 5 cents
 - C. 15 cents
 - D. One dollar and 5 cents
2. Solve for x when $|x - 7| = 3$ (Hint: The bars mean absolute value)
- A. $x = 4$
 - B. $x = 10$
 - C. $x = 4$ and $x = 10$
 - D. $x = -4$ and $x = 10$
3. John starts out on his bicycle at a rate of 15 miles per hour. 3 hours later, Sam drives his car along the same route at 45 miles per hour. In how much time will Sam overtake John?
- A. 1 hour and 20 minutes
 - B. 2 hours and 50 minutes
 - C. 1 hour and 30 minutes
 - D. 30 minutes

4. Julia is 5 years older than her brother Jim. 5 years ago, Julia was twice as old as Jim. How old is each now?

- A. Julia is 15 years and Jim is 10 years old
- B. Julia is 10 years and Jim is 5 years old
- C. Julia is 10 years and Jim is 15 years old
- D. Julia is 20 years and Jim is 10 years old

5. Find the slope and y-intercept of $y = 4x - 4$

- A. Slope is 1 and y-intercept is 0
- B. Slope is -4 and y-intercept is 4
- C. Slope is 4 and y-intercept is -4
- D. Slope is 0 and y-intercept is 4

6. The area of a square is 36 square inches. The square and an equilateral triangle have equal perimeters. Find the length of a side of the triangle.

- A. 5 inches

- B. 6 inches
- C. 7 inches
- D. 8 inches

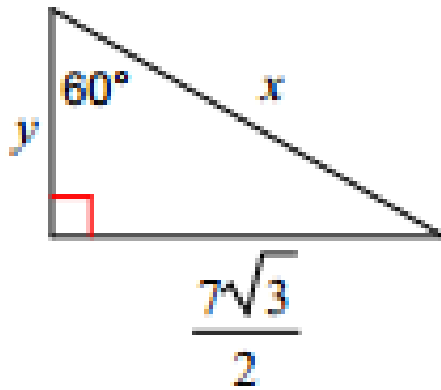
7. Factorize $2x^2 + 5x - 3$

- A. $(x - 3)(2x + 1)$
- B. $(x + 3)(2x - 1)$
- C. $(2x + 3)(x - 1)$
- D. $(x + 3)(2x + 1)$

8. Rick can choose one of 5 boxes. One box contains \$20 and others are empty. What is the probability that he will choose the \$20 box?

- A. 1
- B. $\frac{1}{5}$
- C. $\frac{4}{5}$
- D. 1.5

9. Find x and y in the right angle triangle below.



- A. $x = \frac{1}{2}$ and $y = 7\sqrt{3}$
- B. $x = 7\sqrt{3}$ and $y = \frac{1}{2}$
- C. $x = 7$ and $y = 7$
- D. $x = 7$ and $y = \frac{7}{2}$

10. An arc has a length of 6π . The central angle has a measure of 120° . Find the radius of the circle.

- A. 6
- B. 9
- C. 3π
- D. 12

11. Five speakers are scheduled to speak at a ceremony. In how many different orders can the speakers appear?

- A. 5!
- B. 20
- C. 5
- D. $5 \times 4 \times 3$

12. Express $\frac{43}{5}$ as a mixed number.

- A. 9
- B. $8\frac{3}{5}$
- C. $40\frac{3}{5}$
- D. 12

13. Solve for x in $\frac{x}{4} - \frac{1}{4} = -\frac{11}{2}$

- A. 11
- B. -44
- C. $-\frac{1}{4}$

◦ D. - 21

14. How many square tiles 9" on a side will be needed to tile a floor 9' x 12' ?

- A. 108
- B. 144
- C. 192
- D. 156

15. What is the complement of a 31° angle?

- A. 59°
- B. 149°
- C. 31°
- D. 93°

16. How much simple interest will there be on \$600 for 3 years at 7%?

- A. \$162
- B. \$35
- C. \$126
- D. \$50

17. Compute $27^{\frac{2}{3}}$ is equal to.

- A. 3
- B. 9
- C. 14
- D. 27

18. A metal cylinder of radius 3 inches and height 4 inches is melted and molded into a sphere. What is the radius of sphere ?

- A. 2 inches
- B. π inches
- C. 4 inches
- D. 3 inches

19. Find the median, mode, and range of the following set.

13, 18, 13, 14, 13, 16, 14, 21, 13

- A. Median=14, Mode=13, Range=8
- B. Median=13, Mode=14, Range=13
- C. Median=21, Mode=16, Range=18
- D. Median=13, Mode=18, Range=0

20. If 18 gallons of gasoline cost 23.31, how much does 12 gallons of gasoline cost?
- A. \$12.23
 - B. \$18.91
 - C. \$15.54
 - D. \$23.12
21. How many ounces of pure alcohol must be added to 50-oz solution containing 20% alcohol to make it a solution containing 50% alcohol?
- A. 30-oz
 - B. 40-oz
 - C. 60-oz
 - D. 25-0z
22. If the degree measure of two complementary angles are in the ratio of 1:9 then find the degree measure of the smallest angle.
- A. 6°
 - B. 10°
 - C. 9°
 - D. 45°

23. The sum of all angles of a heptagon is:
- A. 720
 - B. 360
 - C. 900
 - D. 1080
24. Find the Lowest Common Multiple (L.C.M.) of 240 and 924.
- A. $2^4 \times 3 \times 5 \times 7 \times 11$
 - B. $2^2 \times 3 \times 5 \times 7 \times 11$
 - C. $2 \times 3 \times 5 \times 7 \times 11$
 - D. 2×3
25. A real estate broker charges 2.5% commission from each the buyer and the seller of the house. If he collects \$10,000 at the end of the sale, How much did the house sell for?
- A. 100,000
 - B. 200,000
 - C. 10,000
 - D. 250,000