



MONTANA COUNCIL OF TEACHERS OF MATHEMATICS
2017 MATH CONTEST
FOUNDATIONS TEST

DIRECTIONS: DO NOT WRITE ON THIS TEST. Place the best answer for each question on the separate answer sheet.

1. Evaluate: $2 + 3 \times 5 - 12 \div 4$
A) -0.5 B) 3.25 C) 14 D) 22 E) none of these
2. If you take the point (3, -1) and move it 4 units to the left and 6 units up, what will the coordinates of the new point be?
A) (-1, -7) B) (-1, 5) C) (7, -7) D) (7, 5) E) none of these
3. Solve for x : $\frac{6}{15} = \frac{3}{x}$
A) $x = 1.2$ B) $x = 5$ C) $x = 7.5$ D) $x = 30$ E) none of these
4. Chris wants to buy a new Xbox. He prices the new game system at two different stores, both having the same regular price. Target is having a 20% off sale on the Xbox, and Walmart is having a $\frac{1}{4}$ off sale on the same system. If the regular price is \$275, what is the difference between the two sale prices?
A) \$5.50 B) \$6.88 C) \$13.75 D) \$55.00 E) none of these
5. Which of the following numbers is NOT divisible by 4 and 5?
A) 320 B) 625 C) 2800 D) 13,860 E) none of these
6. Jordan's bedroom is 10 feet wide by 12 feet long. What is the area of the floor in the bedroom?
A) 22 feet B) 44 feet C) 60 square feet D) 120 square feet E) none of these
7. If $3x + 7 = 43$, solve for x .
A) $x = 7\frac{1}{3}$ B) $x = 12$ C) $x = 12\frac{1}{3}$ D) $x = 13$ E) none of these
8. If an empty lot is 30 feet by 50 feet, and the snow cover averages 3 inches deep, how many cubic feet of snow are covering the empty lot?
A) 83 cubic feet B) 375 cubic feet C) 450 cubic feet D) 500 cubic feet E) none of these
9. Which statement is NOT true?
A) Every parallelogram is a rhombus B) Every square is a rhombus C) Every rectangle is a parallelogram
D) Every square is a rectangle E) None of the above
10. Find the product of the complement and supplement of an angle measuring 52 degrees.
A) 90 B) 166 C) 4864 D) 6144 E) none of these
11. The Student Council bought 6 dozen donuts to celebrate their fundraiser. They gave away $\frac{1}{4}$ to Math Club, $\frac{1}{6}$ of the remainder to the teachers, $\frac{3}{5}$ of that remainder to Band Club, and $\frac{2}{3}$ of the remaining donuts to Track Club. How many were left for Student Council?
A) 6 B) 9 C) 12 D) 15 E) none of these
12. What is the product of -2, -6, and -7?
A) -84 B) -15 C) 15 D) 84 E) none of these

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13. Mrs. Smith has an evergreen tree in her backyard that she wants to fence in the shape of a regular hexagon with flat panels. She has 33 feet of paneling. How long is each panel?

- A) $4\frac{1}{8}$ B) 5.5 feet C) 6 feet D) $6\frac{3}{5}$ E) none of these

14. In a class of 20 students, $\frac{3}{5}$ are boys. If four more boys join the class, what fraction of the class are now boys?

- A) $\frac{4}{5}$ B) $\frac{2}{3}$ C) $\frac{3}{5}$ D) $\frac{1}{2}$ E) none of these

15. A fair pair of 6-sided dice are rolled and the sum is recorded. What is the probability the sum is a multiple of three?

- A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{3}{8}$ D) $\frac{1}{2}$ E) none of these

16. Simplify the expression $12x - 5(-2x + 3) - 5$

- A) $2x + 15$ B) $2x - 20$ C) $10x - 7$ D) $22x - 20$ E) none of these

17. If the circumference of a circle is 31.4 inches, what is the area of the same circle?

- A) 15.7 square inches B) 19.6 square inches C) 78.5 square inches D) 314 square inches E) none of these

18. This test may have no more than 25 questions. Which inequality describes the number of possible questions on this test?

- A) $q \leq 25$ B) $0 < q \leq 25$ C) $q \geq 25$ D) $0 < q > 25$ E) none of these

19. Cara has lunch with her friends with Jimmy Johns and their total bill was \$36.25. They want to leave a 20% tip. How much will the bill be including tip?

- A) \$36.98 B) \$39.88 C) \$43.00 D) \$43.50 E) none of these

20. A stack of 720 concrete blocks forms a rectangular prism that is 10 feet wide by 8 feet long. How many blocks high is it?

- A) 24 B) 80 C) 72 D) 702 E) none of these

21. Kari looks in her closet one morning and finds 4 shirts she wants to wear, 3 pairs of slacks, and 2 pairs of shoes. How many different options are possible?

- A) 9 B) 12 C) 14 D) 24 E) none of these

22. Ron got 21 of 25 right on his math test, 11 of 12 on an English test, and 26 of 30 on a history test. On which test did Ron do best?

- A) English B) Spanish C) History D) Math E) none of these

23. Bananas cost 55 cents a pound. Maria buys \$2.31 worth. How many pounds of bananas did she buy?

- A) 1.76 lbs B) 2.38 lbs C) 2.86 lbs D) 4.2 lbs E) none of these

24. Evaluate: $\frac{1}{6} \times \frac{3}{5} \times \frac{2}{7} \times \frac{5}{8} \times \frac{1}{3} \times \frac{7}{10}$.

- A) $\frac{1}{45}$ B) $\frac{1}{240}$ C) $\frac{1}{315}$ D) $\frac{1}{630}$ E) none of these

FOUNDATIONS TEST 2017 Answer Key

1. C
2. B
3. C
4. C
5. B
6. D
7. B
8. B
9. A
10. C
11. A
12. A
13. B
14. B
15. B
16. D
17. C
18. B
19. D
20. E
21. D
22. A
23. D
24. B