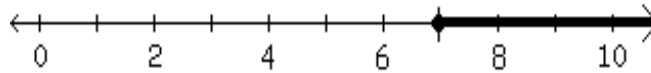


Mathematics Competition Sample Written Test

1. Which algebraic equation represents the word sentence "15 less than the number of computers c is 32"?

- (a) $\frac{c}{15} = 32$
- (b) $15c = 32$
- (c) $15 - c = 32$
- (d) $c - 15 = 32$

2. Which inequality is represented by this graph?



- (a) $x < 7$
- (b) $7 < x$
- (c) $x \leq 7$
- (d) $7 \leq x$

3. Bill is 3 years older than his cat. The sum of their ages is 25. If c represents the cat's age, which equation could be used to find c ?

- (a) $c + 25 = c + 3$
- (b) $c + 25 = 3c$
- (c) $c + 3c = 25$
- (d) $c + (c + 3) = 25$

4. The solution of $k + 3(k - 2) = 34$ is

- (a) $k = 10$
- (b) $k = 9$
- (c) $k = 8$
- (d) $k = 7$

5. Which has the greatest value?

- (a) $(2 + 3)(2 + 3)$
- (b) $2 + 3 \times 3$
- (c) $(2 \times 3)(2 \times 3)$
- (d) $2 \times 2 + 3 \times 3$

6. Mrs. Toles has kept a record of this month's long-distance telephone calls.

Length of Call in Minutes	2	5	7	12	15
Number of Calls	7	x	2	2	3

If 75% of her calls lasted less than 10 minutes, what is the value of x ?

- (a) 5
- (b) 6
- (c) 7
- (d) 8

7. Which of the following is NOT a solution of $y = 5x + 1$?
- (a) (0, 1)
 - (b) (1, 6)
 - (c) (21, 4)
 - (d) (22, 111)
8. Which of the following is the value of $-7 + 3h$ when $h = -5$?
- (a) -8
 - (b) 8
 - (c) -22
 - (d) 22
9. If $(n + 3)(9 - 5) = 16$, then what does n equal?
- (a) 1
 - (b) 4
 - (c) 7
 - (d) 9
10. If $x = -\frac{1}{4}$, which is least?
- (a) $1 - x$
 - (b) $x - 1$
 - (c) x
 - (d) $1 + x$
11. Which ratio compares the value of a hundred \$1000 bills with the value of a thousand \$100 bills?
- (a) 1 to 10
 - (b) 1 to 1
 - (c) 5 to 1
 - (d) 10 to 1
12. Which number is equivalent to 2^{-5} ?
- (a) $\frac{1}{10}$
 - (b) $\frac{1}{32}$
 - (c) $-\frac{1}{10}$
 - (d) $-\frac{1}{32}$
13. Which is 8.1×10^{-5} ?
- (a) 8,100,000
 - (b) 810,000
 - (c) 0.000081
 - (d) 0.0000081

14. Which number is equivalent to 5^{12} divided by 5^4 ?
- (a) 1^3
 - (b) 1^8
 - (c) 5^3
 - (d) 5^8
15. The average weight of 50 prize-winning tomatoes is 2.36 pounds. What is the combined weight, in pounds, of these 50 tomatoes?
- (a) 0.0472
 - (b) 11.8
 - (c) 52.36
 - (d) 59
 - (e) 118
16. If a measurement of a rectangular box is given as 48 cubic inches, then the measurement represents the
- (a) distance around the top of the box
 - (b) length of an edge of the box
 - (c) surface area of the box
 - (d) volume of the box
17. The least common multiple of 8, 12, and a third number is 120. Which of the following could be the third number?
- (a) 15
 - (b) 16
 - (c) 24
 - (d) 32
 - (e) 48
18. There are 15 girls and 11 boys in a mathematics class. If a student is selected at random to run an errand, what is the probability that a boy will be selected?
- (a) $\frac{4}{26}$
 - (b) $\frac{11}{26}$
 - (c) $\frac{11}{15}$
 - (d) $\frac{15}{11}$
19. In the model town that a class is building, a car 15 feet long is represented by a scale model 3 inches long. If the same scale is used, a house 35 feet high would be represented by a scale model how many inches high?
- (a) $\frac{45}{35}$
 - (b) 3
 - (c) 5
 - (d) 7
 - (e) $\frac{35}{3}$

20. What is the ratio of the length of a side of an equilateral triangle to its perimeter?
- (a) 1:1
 - (b) 1:2
 - (c) 1:3
 - (d) 2:1
 - (e) 3:1