1. Which fraction is equivalent to $3 - \dfrac{1}{2 + \dfrac{1}{4}}$?

a) 23/9   b) 9/23   c) 71/9   d) 11/4

2. List all factors of 45

a) 3, 5, 9   b) 3, 5, 9, 15

c) 1, 2, 3, 9, 15, 18, 45   d) 1, 3, 5, 9, 15, 45

3. Find a number between 180 and 340 that is divisible by 60 and 48.

a) 300   b) 240   c) 280   d) 336

4. 80% of 125 is

a) 100   b) 10,000   c) 15.625   d) 64

5. A point with x-coordinate 5 is on the line $2x - 3y = 4$.
What is the y-coordinate?

a) -2   b) 9.5   c) 0   d) 2

6. Simplify $a + b(1 - a) - a(2 - b)$

a) $- a + b$ b) $a - b$ c) $-a^2 - a + b$ d) $2ab - a - b$

7. Which quantity is smallest?

a) the sum of 0.1 and 0.2
b) the product of 0.1 and 0.2
c) the quotient 0.2 divided by 0.1
d) 0.2 squared

8. Find the mean and median of this data set:

  9   8   8   7   3   7   9   5   1   8

a) 6.5, 5   b) 7.5, 6.5   c) 6.5, 7.5   d) 7, 7.5

9.   48 inches = _____ yards.

a) 1 & 1/3   b) 1 & 1/12   c) 1 & ¼   d) 576

10. Cora wants to buy a new hat. The store has hats in four different colors. Hats come with flowers or lace or beads, and each hat either has ribbon or does not have ribbon. How many different hats will Cora have to choose from?

a) 9   b) 24   c) 12   d) 48

11 Agnes borrows $150 from Cora, and agrees to repay her plus 2% interest. How much will Agnes repay Cora?

a) $3   b) $153   c) $150   d) $150.02

12. Which inequality is *not* true?

a) - 8 < 7   b) 7 < 8   c) - 7 < - 8   d) - 7 < 8

13. Find the sum of 6 1/3 + 5 ½ - 7 1/6.

a) 32/6   b) 35   c) 4   d) 14/3

14. Solve for x: $2x - 3(1 - x) - 12 = 0$

a) 3   b) 3 and 2 are both solutions   c) 15   d) 1

15. A rectangle is twice as long as it is wide. The perimeter of the rectangle is 36 inches. What is the area of the rectangle?

a) 36 in^2 b) 72 in^2 c) 1296 in^2 d) 12 in by 6 in

16. Derek is 6 years older than Agnes. Tod is 5 years younger than Derek. Agnes is 7 years younger than Tod's brother Hugh. Who is the oldest person mentioned?

a) Tod   b) Derek   c) Agnes   d) Hugh

17. William can do a certain job by himself in 3 hours. Leonard takes 4 hours to do the same job by himself. Deforrest needs 6 hours to get it done by himself. How long will the job take all three of them working together?

a) 1 & 1/3 hours   b) 13 hours   c) 13/3 hours   d) 3 hours

18. James drove 42 miles from Kingsport to Erwin in 35 minutes. How fast did he go?

a) 72 miles per hour   b) 1.2 hours   c) 83 mph   d) 48 mph

19. What is the next number in this sequence 3   5   9   17   33?

a) 65   b) 49   c) 41   d) 40

20. A bus company charges each person a basic fee of $30 for a trip, but can charge less if enough people go. If more than 10 go on the trip, the basic fee for everybody is reduced by $1 for each extra person. Suppose 17 people go on a trip together. How much will each of them pay?

a) $23   b) $13   c) $37   d) $30 or $17

21. A fair six-sided die (as is used in many board games) is to be rolled. What is the probability that it rolls an even number?

a) 0.5   b) 1/3   c) 1/6   d) 0

22. Suppose (2 - x) 3 + 4 = 5. What is x?

a) 5   b) 3   c) 11/7   d) 5/3

23. Which of these is *not* a factor of 240?

a) 15   b) 18   c) 16   d) neither 16 nor 18

24. Which of these is equivalent to 1.23×10^{-4} ?

a) -12.3   b) 12,300   c) 0.000123   d) - 49.2

25. Paul must drive from Bowling Green, KY, to Atlanta, GA, a distance of about 300 miles. Paul's car gets 24 miles per gallon of gas. The tank of Paul's car holds 10 gallons of gas at a time. Gas costs $2.50 per gallon. How much will Paul have to spend on gas for the trip?

a) $300   b) $ 31.25   c) $25   d) $60