1. Solve: \( x + 3(2x - 5) = 6 \)
   A. \( \frac{11}{7} \)
   B. \( \frac{11}{4} \)
   C. 3
   D. 14

2. Multiply: \( (2x - 3y)^2 = \)
   A. \( 4x^2 + 9y^2 \)
   B. \( 4x^2 - 12xy + 9y^2 \)
   C. \( 2x^2 + 6y^2 \)
   D. \( 4x^2 - 6xy + 9y^2 \)

3. Which of the following is a factor of \( 6a^2 - 15a - 36? \)
   A. \( 2a - 3 \)
   B. \( 2a + 3 \)
   C. \( a + 4 \)
   D. \( a - 3 \)

4. Which of the following is a factor of \( 2x^2 + 5x - 12? \)
   A. \( 2x - 3 \)
   B. \( 2x + 3 \)
   C. \( x - 4 \)
   D. \( x - 3 \)
5. Rosa as an employee of a departmental store receives an additional 5% off of the lowest price on an item. If she purchases an item during a 20% off sale, which expression will be her final cost of the item?

A. 0.76c  
B. 0.85c  
C. $76  
D. $75

6. Simplify: \( \frac{a^6}{a^2} \)

A. \( a^3 \)  
B. \( a^4 \)  
C. 3  
D. \( a^8 \)

7. Solve \( 5x^2 + 4x - 4 = 0 \)  Use the quadratic formula \( x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \).

A. \( x = \frac{4}{9} \)  
B. \( x = \frac{-4 \sqrt{96}}{10} \)  
C. \( x = \frac{-4 \pm \sqrt{-66}}{210} \)  
D. \( x = \frac{-2 \pm \sqrt{6}}{5} \)

8. The base of a right triangle is 5 ft. longer than the height. Find the base if the area is 50 ft\(^2\)

A. 10 ft  
B. \( \frac{-5 \pm \sqrt{-375}}{2} \) ft  
C. 7.8 ft  
D. 12.8 ft
9. If \( d \) is the price of an item and it is marked 12% off during the sale. What is the sale price?

A. \( 1 - 0.12d \)
B. \( 0.12d \)
C. \( 0.88d \)
D. $88

10. If \( L \) is the original price of a designer lamp and during the sale it is marked 15% off, then the sale price is

A. \( 0.85L \)
B. \( 0.15L \)
C. $85
D. 0.85

11. Simplify: \( \frac{yx+y}{y} \)

A. \( yx \)
B. \( x + y \)
C. \( yx + 1 \)
D. \( x + 1 \)

12. If \( 4b - 1 = b \), then \( 24b = \)

A. 8
B. \( \frac{1}{3} \)
C. \( 24\frac{1}{3} \)
D. \( \frac{1}{5} \)

13. Find the area

A. \( 6x^2 + y^2 \)
B. \( 9x^2 - 6xy + y^2 \)
C. \( 3x^2 + y^2 \)
D. \( 9x^2 + 6xy + y^2 \)
14. The variable \( y \) varies directly as \( x \). Given that \( y = 10.5 \) when \( x = 9.1 \), find \( x \) when \( y = 150 \).

A. 130  
B. 135.5  
C. 171  
D. 173.

15. \( f(t) = \frac{t-1}{t^2-4} \), find \( f(1) \)

A. \( \frac{1}{4} \)  
B. 0  
C. \( \frac{1}{2} \)  
D. \( \frac{1}{3} \)

16. An object is thrown upward from the ground. The height \( h(t) \) in \( t \) seconds is given by the equation \( h(t) = -16t^2 + 32t \). Find the time when the object will hit the ground.

A. 2 sec  
B. 4 sec  
C. 8 sec  
D. 16 sec

17. A bag contains 15 red marbles, 10 blue marbles and 5 green marbles. What is the probability of choosing a marble that is not green when one marble is drawn from the bag?

A. \( \frac{1}{6} \)  
B. \( \frac{1}{5} \)  
C. \( \frac{1}{3} \)  
D. \( \frac{5}{6} \)
18. Solve the inequality: $-6a > -24$
   A. $a < -18$
   B. $a < -4$
   C. $a < 4$
   D. $a > -18$

19. If $-x^2 + 6x - 7 = y$, find the maximum value of $y$.
   A. 2
   B. 6
   C. 7
   D. 13

20. The numbers 6, 4, 6, 3, 7 are in the list. Which of the statements below is not true?
   A. Mean and Median are equal
   B. Median and Mode are the same
   C. Mode is greater than Mean
   D. Largest number in the list is 7

21. There were 2000 delegates in a convention. 20% of the delegates were from blue states and 25% of the delegates were from red states. The rest of the delegates were from undecided states. If a speaker is chosen from the delegates, what is the probability of having the speaker from a red state?
   A. $\frac{1}{4}$
   B. $\frac{1}{5}$
   C. $\frac{1}{3}$
   D. $\frac{1}{8}$
Answers:

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