1. M is 8 more than a second number. Which of the following represents the second number?

A) M – 11  
B) M – 8  
C) M + 8  
D) M + 17

2. Which pair of equations does NOT have a solution?

A) x + y = -1  4x - 3y = 24  
B) 4x + 6y = 12  6x + 9y = 12  
C) 2x - 3y = -4  2x + y = 4  
D) 5x - 4y = 9  x - 2y = -3

3. If 4(3x + 2) - (x + 5) = -3 then x = ?

A) 11/6  
B) -11/6  
C) 6/11  
D) -6/11

4. (3x³y)³ = ?

A) 9x³y³  
B) 9x³y³  
C) 27x³y³  
D) 27x³y³

5. (x - 2) is a factor of which polynomial?
   I. x² - 4x + 4  
   II. x² + x - 6

A) I only  
B) II only  
C) I and II  
D) neither

6. \[
\frac{2}{\frac{2}{x} + \frac{2}{y}} = ?
\]
A) $x + \frac{y}{xy}$
B) $\frac{xy}{x + y}$
C) $x + y$
D) $x + \frac{y}{4}$

7. $x = |4-5| \quad y = |-4-(-5)| \quad z = |4| - |-5|$
Which is true about $x$, $y$, and $z$?

A) $x < z$
B) $z < y$
C) $x = z$
D) $y = z$

8. \[
\frac{3x}{2y} \times \frac{8y^2}{27x} = ?
\]
A) $\frac{4y}{3}$
B) $\frac{4y}{9}$
C) $\frac{4y}{3x}$
D) $\frac{4y}{9x}$

9. $M - 9 = 1$ All of the following mean the same as the given equation except:

A) M is one more than nine
B) M is nine more than one
C) One is nine less than M
D) Nine is M less than one

10. Solve for $x$ and $y$:
\[
2x + y = 3 \\
x - 3y = 12
\]
A) $(3, 9)$
B) $(3, -9)$
C) $(3, -3)$
D) $(3, 3)$

11. M is 8 more than a second number. Which of the following represents the second number?

A) $M - 11$
B) $M - 8$
C) $M + 8$
D) $M + 17$

12. Which pair of equations does NOT have a common solution?
A) \( x + y = -1 \quad 4x - 3y = 24 \)
B) \( 4x + 6y = 12 \quad 6x + 9y = 12 \)
C) \( 2x - 3y = -4 \quad 2x + y = 4 \)
D) \( 5x - 4y = 9 \quad x - 2y = -3 \)

13. \( 24 \times -8 = ? \)
   A) \( 8x \)
   B) \( 8(3x - x) \)
   C) \( 8(3x - 1) \)
   D) \( 8(3x - 8) \)

14. \( (2x - 5y)^2 = ? \)
   A) \( 4x^2 - 25y^2 \)
   B) \( 4x^2 - 10xy + 25y^2 \)
   C) \( 4x^2 + 20xy - 25y^2 \)
   D) \( 4x^2 - 20xy + 25y^2 \)

15. \( (9 - 7) - (7 - 9) = ? \)
   A) \( 0 \)
   B) \( 4 \)
   C) \( -4 \)
   D) \( -14 \)

16. \( (5\sqrt{3x})^2 = ? \)
   A) \( 15x^2 \)
   B) \( 45x^2 \)
   C) \( 75x^2 \)
   D) \( 75x \)

17. \( 4x/5 - 2x/3 + x/2 = ? \)
   A) \( 3x/30 \)
   B) \( x/10 \)
   C) \( 19x/30 \)
   D) \( 19/30 \)

18. Which of the following is equal to \( x^2 - 10x + 24 \)?
   A) \( (x - 4)(x + 6) \)
   B) \( (x + 4)(x - 6) \)
   C) \( (x - 4)(x - 6) \)
   D) \( (x + 4)(x + 6) \)
19. \(3x^2 - 15x = \) 

A) \(x - 5x\)  
B) \(x - 5\)  
C) \(x^2 - 5x\)  
D) \(x^2 - 5\)

20. Which of the following equals \(12x\)? 

A) \(6x \times 6x\)  
B) \(13^2 - x\)  
C) \(-8x + 20x\)  
D) \(12 + x\)

Answers:

2. B  12. B  
3. D  13. C  
4. C  14. D  
5. C  15. B  
7. B  17. C  
8. B  18. C  
10. C  20. C