1. Simplify. \( \sqrt{90} + \sqrt{250} \)
   A) \( 8\sqrt{10} \)
   B) \( 2\sqrt{85} \)
   C) \( 34\sqrt{10} \)
   D) \( 10\sqrt{3} + 10\sqrt{5} \)

2. Simplify completely. \( \sqrt{5}(\sqrt{3} + \sqrt{5}) \)
   A) \( 25 + \sqrt{15} \)
   B) \( 5 + \sqrt{3} \)
   C) \( \sqrt{5} + \sqrt{15} \)
   D) \( 5 + \sqrt{15} \)

3. Simplify completely. \( \frac{\sqrt{7}\sqrt{21}}{\sqrt{3}} \)
   A) \( 3\sqrt{7} \)
   B) \( \sqrt{7} \)
   C) \( 1 \)
   D) \( 7 \)

4. Simplify. \( \frac{-14a^8b^6}{-2a^4b^2} \)
   A) \( 7a^2b^3 \)
   B) \( 7a^{12}b^8 \)
   C) \( 7a^4b^4 \)
   D) \( 7a^4b^3 \)
5. Simplify. 
\[(3x^2y^4)^3\]
- A) $3x^6y^{12}$
- B) $9x^6y^{12}$
- C) $27x^5y^7$
- D) $27x^6y^{12}$

\[(6x^2 + 7x - 3) - (-2x^2 + 4x - 5)\]
- A) $4x^2 + 3x + 2$
- B) $8x^2 + 3x + 2$
- C) $8x^2 + 11x + 2$
- D) $8x^2 + 3x - 8$

7. Multiply. 
\[(3x - 5)(x^2 - 6x + 4)\]
- A) $3x^3 - 23x^2 + 42x - 20$
- B) $3x^3 - 18x^2 + 12x - 20$
- C) $3x^3 - 23x^2 + 12x - 20$
- D) $3x^3 - 18x^2 + 42x - 20$

8. Simplify completely. 
\[\frac{30x^9 + 8x^7 - 2x^5}{-2x^5}\]
- A) $-15x^4 - 4x^2$
- B) $15x^4 + 4x^2 - 1$
- C) $30x^9 + 8x^7$
- D) $-15x^4 - 4x^2 + 1$

\[18x^3 - 200xy^2\]
- A) $2x(3x - 10y)(3x + 10y)$
- B) $2(9x^3 - 100xy^2)$
- C) $2x(9x - 100y)(9x + 100y)$
- D) $2x(3x - 10y)(3x - 10y)$
10. Which of the following is a factor of the polynomial?
   \[2x^2 + 11x - 21\]
   A) \(x + 7\)
   B) \(x - 7\)
   C) \(2x + 3\)
   D) \(2x - 7\)

11. Which of the following is a factor of the polynomial?
   \[45cw + 63cz - 20dw - 28dz\]
   A) \(9c - 7d\)
   B) \(9c + 4d\)
   C) \(5w + 7z\)
   D) \(5w - 7z\)

12. If \(y\) represents a number, which equation is a correct translation of
    the sentence?
    \[30 \text{ subtracted from 7 times a number is 4.}\]
    A) \(30 - 7y = 4\)
    B) \(7(y - 30) = 4\)
    C) \(7y - 30 = 4\)
    D) \(7(30 - y) = 4\)

13. Solve for \(x\).
    \[\frac{x + 4}{2} = \frac{x + 9}{3}\]
    A) \(x = 1\)
    B) \(x = 5\)
    C) \(x = 6\)
    D) \(x = 14\)

14. Solve for \(x\).
    \[18 - 5x = -3(x - 2)\]
    A) \(x = 10\)
    B) \(x = 6\)
    C) \(x = -12\)
    D) \(x = 12\)
15. What is the value of the $x$-coordinate of the solution to the system of equations?

\[ \begin{align*}
2x + y &= 3 \\
-5x - 2y &= 4
\end{align*} \]

A) $x = 7$
B) $x = -10$
C) $x = 10$
D) $x = -7$

16. Solve for $x$.

\[ z = 5x - 7y \]

A) $x = \frac{z + 7y}{5}$
B) $x = \frac{z - 7y}{5}$
C) $x = \frac{z}{5} + 7y$
D) $x = 5(z + 7y)$

17. Find all solutions to the equation.

\[ x^2 + 2x = 15 \]

A) $x = 3$ or $x = -5$
B) $x = -3$ or $x = 5$
C) $x = 3$ or $x = 5$
D) $x = -3$ or $x = -5$

18. What is the value of $x$ in the right triangle?

![Right Triangle Diagram]

A) $\sqrt{10}$
B) $2\sqrt{13}$
C) 10
D) $2\sqrt{5}$
19. Find the graph of the solution to the inequality.
\[ 2x - 3 \geq 5x + 6 \]

A) 

B) 

C) 

D) 

20. Given \( a = 3 \) and \( b = -1 \), evaluate the expression given below.
\[ ab - b^2 \]

A) \(-4\)  
B) \(-2\)  
C) \(2\)  
D) \(4\)  

21. Which of the following is the graph of the equation?
\[ 5x + 3y = -15 \]  

A) 

B) 

C) 

D)
22. Find the equation of the line passing through the points \((-1, 7)\) and \((2, -8)\). Write the equation in slope-intercept form.

A) \(y = -5x + 2\)  
B) \(y = -5x + 7\)  
C) \(y = 5x + 12\)  
D) \(y = 5x - 18\)

23. Find the equation of the horizontal line passing through the point \((-5, 3)\).

A) \(x = -5\)  
B) \(y = -\frac{3}{5}x\)  
C) \(y = 3\)  
D) \(y = x + 3\)

24. Find the slope and \(y\)-intercept for the graph of the equation.

\[6x - 7y = 35\]

A) Slope = \(\frac{6}{7}\) and \(y\)-intercept = \((0, -5)\)  
B) Slope = \(-\frac{6}{7}\) and \(y\)-intercept = \((0, -5)\)  
C) Slope = \(\frac{7}{6}\) and \(y\)-intercept = \((0, 35)\)  
D) Slope = \(-\frac{7}{6}\) and \(y\)-intercept = \((0, 35)\)

25. What is the slope of the line graphed below?

A) \(-\frac{1}{4}\)  
B) \(-4\)  
C) \(\frac{1}{4}\)  
D) \(4\)
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