1. Simplify $7(2x - 5)$.
   a) $9x - 12$   b) $14x - 5$   c) $14x - 35$   d) $14x + 35$

2. $7 - 3(2x - 5) =$
   a) $-6x + 22$   b) $6x - 20$   c) $-6x + 35$   d) $6x - 5$

3. Find the number with the highest value
   a) $\frac{1}{2}$   b) $\frac{3}{8}$   c) $\frac{2}{5}$   d) 0

4. Which is a factor of $3x^2 - 11x - 4$?
   a) $(3x + 2)$   b) $(3x - 2)$   c) $(3x + 4)$   d) $(3x + 1)$

5. A recipe calls for $x$ cups of flour and makes 48 cookies. If the same proportion is maintained, how many cups of flour are required to make 60 cookies.
   a) $\frac{5x}{4}$ cups   b) $\frac{4x}{5}$ cups   c) $\frac{4}{5}$ cups   d) 12 cups

6. In the solution of the system of equations below, what is the value of $x$?
   \[
   \begin{align*}
   7x - 2y &= 3 \\
   3x + 5y &= 13
   \end{align*}
   \]
   a) $\frac{7}{3}$   b) 2   c) $\frac{9}{5}$   d) 1

7. $6\sqrt{20x^3y^3} =$
   a) $2xy\sqrt{5xy}$   b) $60xy\sqrt{x^2y}$   c) $12xy\sqrt{5xy}$   d) $12xy\sqrt{5xy^2}$

8. If a number is divided by 9 and the result has two subtracted from it to give an answer of three, what is the number?
   a) 40   b) 36   c) 27   d) 45
9. If a shirt, tie and slacks cost $120 and the tie cost \( x \) dollars, how much would the shirt and slacks cost together?

a) $120  

b) $120 + \( x \)  

C) $120 - \( x \)  

d) \( x - 120 \)

10. Factor the following trinomial: \( 7x^2 - 13x - 2 \)

a) \( (x + 1)(7x - 2) \)  

b) \( (7x - 1)(x - 2) \)  

c) \( (7x + 1)(x - 2) \)  

d) \( (7x + 1)(x + 2) \)

11. \( 8x - 9y - 9x + 21y - 7 = \)

a) \( 17x + 12y - 7 \)  

b) \( -x + 12y - 7 \)  

c) \( 29xy - 7 \)  

d) \( 17x + 30y - 7 \)

12. \( |7 - 19| = \)

a) -12  

b) 26  

c) -6  

d) 12

13. \( \left(\frac{-3}{2}\right)^2 = \)

a) \( \frac{6}{4} \)  

b) \( \frac{9}{4} \)  

c) \( \frac{-9}{4} \)  

d) \( \frac{-6}{4} \)

14. Which is greatest?

a) \( 30 \div 5 + 2 \)  

b) \( 30 - 5 \times 2 \)  

c) \( 30 + 5 \div 2 \)  

d) \( 30 \times 5 \div 2 \)

15. \( 15 - \frac{-3}{5} = \)

a) \( 15\frac{3}{5} \)  

b) \( 14\frac{2}{5} \)  

c) \( \frac{12}{5} \)  

d) \( 6 \)

16. \( \left(\frac{5x}{6y^2}\right) \cdot \left(\frac{3y}{10}\right) = \)

a) \( \frac{x}{4y} \)  

b) \( \frac{8xy}{16y^2} \)  

c) \( \frac{25x}{9y^3} \)  

d) \( \frac{40x}{9y^2} \)

17. Five times the opposite of a number is less than one more than nineteen

a) \( x < 4 \)  

b) \( x > -4 \)  

c) \( x > 4 \)  

d) \( x < -4 \)
18. $18mn - 9n = $
   a) $9n(2m - n)$  b) $9n(2m - 9n)$  c) $9n(2m - 1)$  d) $9n$

19. Factor completely: $25x^2 - 9y^4$
   a) $(25x^2) - (9y^4)$  b) $(5x - 3y)(5x + 3y)$  c) $(25x + y)(x - 9y)$  d) $(5x - 3y^2)(5x + 3y^2)$

20. $(5x - 2y^2)^2 = $
   a) $25x^2 - 20xy^2 + 4y^4$  b) $25x^2 - 4y^4$  c) $25x^2 + 4y^4$  d) $25x^2 - 20xy^2 + 4y^4$

21. $2x + a - bx + 4 = $
   a) $2bx^2 + (6 + ab)x + 4a$
   b) $2bx^2 + (ab + 8)x + 4a$
   c) $2bx^2 + (2 + a)x + 4a$
   d) $2bx^2 + (6ab)x + 4a$

22. If $x$ is less than -5 then $x - 3$ must be
   a) less than -2  b) less than -8  c) greater than 8  d) between -3 and -5

23. Solve the following quadratic equation: $x^2 + 6x + 9 = 0$
   a) $x = 3$ and $x = -3$  b) $x = 3$  c) $x = -3$  d) $x = \frac{9}{7}$

24. Which of the following inequalities defines the region above?
   a) $x \leq 0$ and $y \leq 0$  b) $x \geq y$  c) $x \leq y$  d) $x \geq 0$ and $y \geq 0$
25. \(3x - 2 > 10\) is equivalent to
   a) \(x > -4\)  
   b) \(x < -4\)  
   c) \(x > 4\)  
   d) \(x < 4\)

26. The inequality \(2x - 7 \geq x + 9\) is equivalent to
   a) \(x \geq 16\)  
   b) \(-7 \leq x \leq 9\)  
   c) \(x \geq 16\)  
   d) \(x \leq -16\)

27. If \(x = 5\) then \((3x - 2)(x + 1) = \)
   a) -2  
   b) 78  
   c) 75  
   d) 68

28. \(\frac{m^7}{m^3} = \)
   a) \(m^3\)  
   b) \(\frac{1}{m^4}\)  
   c) \(m^4\)  
   d) \(\frac{1}{m^{10}}\)

29. \(\left(\frac{a^3b}{ab^5}\right)^2 = \)
   a) \(\frac{b^8}{a^4}\)  
   b) \(\frac{a}{b}\)  
   c) \(\frac{1}{a^4b^4}\)  
   d) \(\frac{a^4}{b^8}\)

30. If \(\frac{2t - 6}{t} = 5\), then \(t = \)
   a) 11  
   b) -2  
   c) \(\frac{11}{2}\)  
   d) -\(\frac{1}{2}\)

31. \(\frac{5}{3x} + \frac{2}{x} = \)
   a) \(\frac{7}{4x}\)  
   b) \(\frac{10}{3x^2}\)  
   c) \(\frac{11}{3x}\)  
   d) \(\frac{7}{3x}\)

32. \(\frac{3}{y+2} + \frac{5}{y+1} = \)
   a) \(\frac{8y+13}{(y+2)(y+1)}\)  
   b) \(\frac{8y+3}{(y+2)(y+1)}\)  
   c) \(\frac{8}{2y+3}\)  
   d) \(\frac{3y+3}{5y+10}\)
33. Which of the following is the graph of $3x - 4 \geq 5$?

a)

![Graph A]

b)

![Graph B]

c)

![Graph C]

d)

![Graph D]

34. $\frac{4B^5 + B^3}{2B^2} =$

a) $4B^3 + \frac{B}{2}$

b) $4B^3$

c) $\frac{5B^8}{2B^2}$

d) $\frac{4B^3 + B}{2}$

35. $\frac{1}{1 + \frac{1}{x}} =

\frac{y + x}{2}$

a) $\frac{y + x}{2}$

b) $\frac{xy}{x + y}$

c) $\frac{x + y}{xy}$

d) $x + y$