

1. Solve the equation $9x - 3y + 8xy - 3$, if $x = 10$ and $y = -2$.

2. Simplify. $9x(3x^2 + 2x - 9)$

3. Evaluate the following expression when $x = 3$
 $x^5x^2 + y^0$

4. Expand the following expression.
 $(2x - 5)(x + 7)$

5. Solve for x .
 $-4x + 8 \geq 48$

6. What is the value of x ?
 $x^2 + 12x + 36 = 0$

7. Simplify. $\frac{64x^4 + 8x^3 - 4x^2 + 16x}{8x}$

8. Factor. $9x^2y - 18xy - 27y$

9. Simplify. $\sqrt{3}(5\sqrt{3} - \sqrt{12} + \sqrt{10})$

10. Solve for y . $(y + 10)^2 - 625 = 0$

11. Solve for y using the following system of equations.

$$2x - 6y = 12$$

$$-6x + 14y = 42$$

12. A line passes through points $A (-3, 18)$ and $B (5, 2)$. What is the slope of the line?

13. Which of the following lines is perpendicular to the line of $y = -5x + 27$?

a. $y = 5x + 2$

b. $y = -1/5x + 9$

c. $y = 1/5x + 7$

d. $y = -5x - 27$

14. What is the midpoint of points $A (-20, 8)$ and $B (5, 3)$?

15. Simplify. $\frac{16x^3 - 32x^2 + 8x}{4x}$

16. If $y = 2$, solve $y^9/y^3 \times 2$

17. Solve for m : $7m + 43 = 160$

18. Solve for x : $x^2 + x = 42$

19. Simplify. $\frac{25x^6y^7z^2}{5x^5y^2}$

20. Expand. $(4x^3 - 6)(-3x^2 + 2x - 5)$

- a. $-12x^5 + 8x^4 - 20x^3 + 18x^2 - 12x + 30$
- b. $-12x^6 - 8x^3 - 20x^2 + 182x - 12x + 30$
- c. $-12x^5 + 8x^4 - 20x^3 + 18x^2 - 4x - 11$
- d. $12x^5 + 8x^4 - 20x^3 + 18x^2 - 12x - 30$

21. Simplify $(16m^{16}y^4z^6/8m^8y^2z^3)^4$

22. Solve for x. $3y + 10x = 23$

$$18y - 15x = 50$$

- a. -1.17
- b. 1.17
- c. -3.75
- d. 3.75

23. Which of the following lines is parallel to the line $y = 3x - 12$?

- a. $12y - 36x = -144$
- b. $y = 1/3x - 12$
- c. $3y - 9x = -12$
- d. $y + 3x = 12 = 0$

24. In a coordinate plane, what is the distance between point A (4, 9) and B (15, 18)?

25. Calculate the point of intersection for the following lines.

$$6x + 3y = 24$$

$$5y - 10 = 15x$$