

1. Simplify: $25 - 10 \div 5$

$$\begin{array}{r} 25 - 2 \\ \hline 23 \end{array}$$

3. Simplify: $2^2 - 2 \cdot (12 \div 6)$

$$\begin{array}{r} 4 - 2 \cdot (2) \\ 4 - 4 \\ \hline 0 \end{array}$$

5a. $\frac{0}{5} = 0$

5b. $\frac{7}{0} = \text{undefined}$

2. Simplify: $8 \div 4 \cdot 2 - 2 + 1$

$$\begin{array}{r} 2 \cdot 2 - 2 + 1 \\ 4 - 2 + 1 \\ \hline 3 \end{array}$$

4. Simplify: $15 - 5 \div 5 \cdot 2 + 3^2$

$$\begin{array}{r} 15 - 5 \div 5 \cdot 2 + 9 \\ 15 - 1 \cdot 2 + 9 \\ 15 - 2 + 9 \\ \hline 22 \end{array}$$

5c. $\frac{12}{12} = 1$

6. Fill in the blank with $<$ or $>$ to make a true statement.

$-9 < -2$

7. Fill in the blank with $<$ or $>$ to make a true statement.

$0 > -5$

8. Simplify: $-6 + 2 - 3 =$

$$\begin{array}{r} -9 + 2 \\ \hline -7 \end{array}$$

9. Simplify: $5(-6) + 11(-4) =$

$$\begin{array}{r} -30 + 11(-4) \\ -30 - 44 \\ \hline -74 \end{array}$$

10. Simplify: $3 - (-5) + (-1) =$

$$\begin{array}{r} 3 + 5 - 1 \\ 8 - 1 \\ \hline 7 \end{array}$$

11. Multiply: $(-3)(-4) = 12$

12. Multiply: $(-8)(3) =$

$$\begin{array}{r} -24 \end{array}$$

13. Divide: $\frac{-15}{3} = -5$

14. Divide: $\frac{-20}{-10} =$

$$\begin{array}{r} 2 \end{array}$$

15. Simplify: $-48 \div 12 \cdot (-2) + 1$

$$\begin{array}{r} -4 \cdot (-2) + 1 \\ 8 + 1 \\ \hline 9 \end{array}$$

16. Simplify: $-7 + (1 - 5)^2 \div 4$

$$\begin{array}{r} -7 + (-4)^2 \div 4 \\ -7 + (+16) \div 4 \\ -7 + 4 \\ \hline -3 \end{array}$$

17. Simplify: $\frac{8 + (-2)^2}{-5 - (-1)}$

$$\begin{array}{r} 8 + 4 = 12 \\ \hline -5 + 1 = -4 \\ \frac{12}{-4} = -3 \end{array}$$

18. Evaluate: $-3xy$ for $x=-5, y=-2$

$$-3(-5)(-2) = -30$$

20. Apply the distributive property: $-3(x-5)$

$$-3x + 15$$

19. Evaluate: $a-b+3c$ for $a=-7, b=-2, c=4$

$$-7 - (-2) + 3(4) = -7 + 2 + 12 = 7$$

21. Apply the distributive property: $-(4x+9-5y)$

$$-4x - 9 + 5y$$

Apply the distributive property and combine like terms for #22 & #23:

22. $12 + 4(x-8)$

$$12 + 4x - 32$$

$$4x - 20$$

23. $3(x+3) - (4x+y) - 3y$

$$3x + 9 - 4x - y - 3y$$

$$-x + 9 - 4y$$

Solve for x in # 24 - 34.

24. $x+7=14$

$$-7 - 7$$

$$x = 7$$

25. $\frac{-7x}{-7} = \frac{14}{-7}$

$$x = -2$$

26. $\frac{-3x}{3} = \frac{-24}{3}$

$$x = 8$$

27. $\frac{6x}{6} = \frac{-24}{6}$

$$x = -4$$

28. $\frac{x}{3} = 9 \cdot 3$

$$x = 27$$

29. $3x - 2 = 16$

$$+2 + 2$$

$$\frac{3x}{3} = \frac{18}{3}$$

$$x = 6$$

30. $9 = 12x - 15$

$$+15 +15$$

$$24 = 12x$$

$$\frac{24}{12} = \frac{12x}{12}$$

$$x = 2$$

31. $8 - 4x = 2 + 2x$

$$-2x - 2x$$

$$-8 - 6x = 2$$

$$-6x = 10$$

$$\frac{-6x}{-6} = \frac{10}{-6}$$

$$x = 1$$

32. $4 + 2x - 7 = 3x + x + 3$

$$2x - 3 = 4x + 3$$

$$-2x - 2x$$

$$-3 = 2x + 3$$

$$-3 - 3$$

$$-6 = 2x$$

$$\frac{-6}{2} = \frac{2x}{2}$$

$$x = -3$$

33. $3x - 4(x-1) = 16$

$$3x - 4x + 4 = 16$$

$$-x + 4 = 16$$

$$-4 - 4$$

$$-x = 12$$

$$\frac{-x}{-1} = \frac{12}{-1}$$

$$x = -12$$

34. $6(x-1) + 5x + 1 = 5(x+6) - x$

$$6x - 6 + 5x + 1 = 5x + 30 - x$$

$$11x - 5 = 4x + 30$$

$$-4x - 4x$$

$$7x - 5 = 30$$

$$+5 + 5$$

$$7x = 35$$

$$\frac{7x}{7} = \frac{35}{7}$$

$$x = 5$$

35. Combine like terms: $5x^2y^4 - x^2y^2 - 3x^2y^4 + 8x^2y^2$

$$2x^2y^4 + 7x^2y^2$$