

- Evaluate $12 \div 2 \cdot 3 - 3(-7) =$
A) 39 B) -3 C) 23 D) -19
- Evaluate the following expression: $4(3 - 7) \div 2 + 8 =$
A) -1.6 B) 0 C) 10.5 D) undefined
- Evaluate: $\frac{5}{8} - \frac{2}{3} + \frac{1}{6} \left(-\frac{1}{2}\right) =$
A) $\frac{1}{24}$ B) $\frac{25}{24}$ C) $-\frac{1}{8}$ D) $-\frac{2}{7}$
- Evaluate the expression $\frac{|x - 6|}{6 - x}$ when $x = -3$.
A) 3 B) -1 C) -3 D) 1
- Simplify the expression $3\sqrt{20} - 4\sqrt{45} + 2\sqrt{245} =$
A) $8\sqrt{5}$ B) $-2\sqrt{5}$ C) $32\sqrt{5}$ D) $-20\sqrt{5}$
- Multiply: $(-8x^2y)(-3xy^4)$
A) $24x^3y^5$ B) $-11x^2y^5$ C) $-24x^2y^4$ D) $11x^3y^3$
- Simplify: $\frac{5x^5y^4z}{30x^3yz^2}$
A) $\frac{6x^2y^3}{z}$ B) $\frac{x^2y^3}{6z}$ C) $\frac{x^2y^3z}{6}$ D) $6x^2y^3z$
- Simplify: $8t - (-6t + 2)$
A) $2t - 2$ B) $14t - 2$ C) $14t + 2$ D) $48t^2 + 16t$
- Subtract: $(4a^4 - 5a^2 + 2a + 5) - (3a^3 - 3a^2 + 2a - 3)$
A) $a^4 - 8a^2 + 4a + 2$ B) $4a^4 - 2a^2 + 4a + 8$ C) $4a^4 - 3a^3 - 2a^2 + 8$ D) $a^4 - 2a^2 + 8$
- Find the indicated product and simplify by combining like terms: $(7m + 3n)(7m - 3n)$
A) $49m^2 - 21mn - 9n^2$ B) $49m^2 - 9n^2$ C) $49m^2 - 42mn - 9n^2$ D) $7m^2 - 3n^2$
- Perform the operation: $(5x - 2)^2 =$
A) $25x^2 - 20x + 4$ B) $25x^2 - 4$ C) $20x^2 - 50x + 4$ D) $25x^2 + 20x + 4$
- Multiply and simplify by combining like terms: $(a + 5)(a^2 - 5a + 25) =$
A) $a^3 - 25a^2 - 25a + 125$ B) $a^3 + 125$ C) $a^3 - 5a^2 - 25a + 125$ D) $a^3 - 125$
- Simplify: $(25m^2 - 9) \left(\frac{5m + 3}{5m - 3}\right) =$
A) $(5m + 3)^2$ B) 1 C) $5m - 3$ D) $5(5m + 3)$
- Factor completely $2x^5 - 50x^3$.
A) $2x^2(x^3 - 25x)$ B) $2x^3(x - 5)^2$ C) $2x(x^2 + 5)(x^2 - 5)$ D) $2x^3(x + 5)(x - 5)$
- Solve the equation $5x^5 = 80x$. The solution set is
A) $\{0, 4\}$ B) $\{2\}$ C) $\{-2, 0, 2\}$ D) $\{2, -2\}$

16. Suppose that a , b and x are non-zero real numbers, and $\frac{1}{x} = \frac{1}{a} - \frac{1}{b}$. Solve this formula for x .

A) $x = \frac{a+b}{a-b}$ B) $x = \frac{ab}{-b-a}$ C) $x = \frac{ab}{a-b}$ D) $x = a\frac{b}{b-a}$

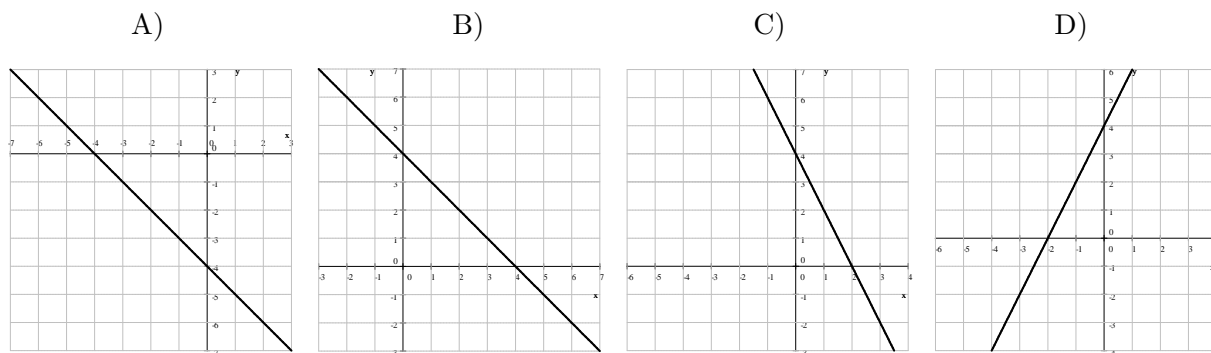
17. Simplify the expression $\frac{3x^2 - 27}{2x^2 + 6x}$

A) $\frac{-3}{x}$ B) $\frac{x-9}{x+3}$ C) $\frac{3x-9}{2x}$ D) $\frac{3x-27}{2x+6}$

18. Perform the operation and simplify. $\frac{7}{x-2} - \frac{3}{x}$

A) -2 B) $\frac{4x-6}{x^2-2x}$ C) $\frac{-2}{x}$ D) $\frac{4x+6}{x^2-2x}$

19. Which of the following is the graph of $y = 2x + 4$?



20. Children's tickets cost \$10 each and adults' tickets cost \$24 each. We bought some tickets. The number of children's tickets is 7 more than twice the adult's tickets. How many tickets did we buy if we paid a total of \$629 for the tickets?

A) 28 B) 30 C) 31 D) 35