

Perform the indicated operations

$$\frac{7 \cdot 4 - 5 \cdot 2 - 6(3 + 2)}{8 \cdot 4 - 3 \cdot 6 + 2(-7)}$$

$$-11 - 5(-8) + 12 - (7 + 8)$$

$$-24 \div 3 \cdot 9 - 4$$

Solve the formula $S = 2\pi r^2 + 2\pi r h$ for h

Solve the formula $\frac{5}{A} - \frac{2}{x} = \frac{1}{B}$ for x

Solve the equation

$$\frac{4x - 3}{3} - \frac{6x - 3}{5} = 2$$

Solve the inequality

$$7(5 - t) + 3t - 8 \geq 5t - 11 - 7$$

Simplify

$$\frac{(7^{-4})^3(7^{-2})^{-4}}{7^{12}7^{-5}}$$

Perform the indicated operation

$$\frac{4x^3 - 18x^2 + 11x - 12}{x - 4}$$

Factor each expression completely

$$rs - 5r - 3s + 15$$

$$27m^3 + 64$$

Write in lowest terms

$$\frac{1}{r-3} - \frac{1}{r}$$

$$\frac{3m^2 - 14m + 8}{2m^2 - 5m - 12} \cdot \frac{m^2 - 1}{3m^2 - 5m + 2}$$

Simplify $\frac{\frac{1}{x} - 1}{3 - \frac{1}{x}}$

Jonathan can paint a room in 3 hours while Vanessa can paint the room in 4 hours. How long would it take them to paint the room if they worked together?

Write an equation for the line through $(7, -4)$ and $(3, 5)$

Graph

$$3x - 4y = 12$$

$$2x + 5y < 10$$

Solve each system

$$\begin{aligned}5x - 8y &= 12 \\ -25x + 40y &= -47\end{aligned}$$

$$\begin{aligned}\frac{1}{3}x - \frac{2}{5}y &= 1 \\ x + \frac{1}{3}y &= \frac{2}{3}\end{aligned}$$

Solve

A 10% alcohol solution is to be combined with a 50% solution to make 20 liters of a 26% alcohol solution. How many liters of each are needed?

Simplify

$$2\sqrt[3]{56} + 3\sqrt[3]{7}$$

$$\frac{3}{1 - \sqrt{5}}$$

Find all solutions

$$4x^2 - 4x - 3 = 0$$

$$3x^2 + 5x = 1$$

$$3x^2 - 2x + 2 = 0$$

**Perform the indicated operations.
Write answers in standard form.**

$$(2 - 3i)(5 + 2i)$$

$$\frac{2+i}{3-i}$$

Graph $y = x^2 + 2$ and identify the vertex.