

Solution

$$\text{solve for } x, -3x + y - 10 = -23x + 4y \quad : \quad x = \frac{3y + 10}{20}$$

Steps

$$-3x + y - 10 = -23x + 4y$$

Subtract y from both sides

$$-3x + y - 10 - y = -23x + 4y - y$$

Simplify

$$-3x - 10 = -23x + 3y$$

Add 10 to both sides

$$-3x - 10 + 10 = -23x + 3y + 10$$

Simplify

$$-3x = -23x + 3y + 10$$

Add $23x$ to both sides

$$-3x + 23x = -23x + 3y + 10 + 23x$$

Simplify

$$20x = 3y + 10$$

Divide both sides by 20

$$\frac{20x}{20} = \frac{3y}{20} + \frac{10}{20}$$

Simplify

$$x = \frac{3y + 10}{20}$$