

Solving Multi-Step Equations

Variables on Both Sides - No Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-109 + 3x = -4x + 31$

(2) $-48 + 2x = 42 - 3x$

(3) $9x - 55 = x + 57$

(4) $-4x - 24 = -8x + 32$

(5) $-23 + 7x = 4x + 7$

(6) $3x - 46 = 14 - x$

(7) $6x - 68 = 22 - 4x$

(8) $-21 - 6x = -8x + 13$

(9) $-22 + 4x = 14 + 2x$

(10) $-68 - x = 23 - 8x$

(11) $6x - 19 = 3x + 8$

(12) $-23 - 3x = -7x + 25$

(13) $9x - 136 = -3x + 44$

(14) $-x - 83 = -9x + 29$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -109 + 3x &= -4x + 31 \\ -109 + 7x &= 31 \\ 7x &= 140 \\ x &= 20\end{aligned}$$

$$\begin{aligned}(2) \quad -48 + 2x &= 42 - 3x \\ -48 + 5x &= 42 \\ 5x &= 90 \\ x &= 18\end{aligned}$$

$$\begin{aligned}(3) \quad 9x - 55 &= x + 57 \\ -55 + 8x &= 57 \\ 8x &= 112 \\ x &= 14\end{aligned}$$

$$\begin{aligned}(4) \quad -4x - 24 &= -8x + 32 \\ -24 + 4x &= 32 \\ 4x &= 56 \\ x &= 14\end{aligned}$$

$$\begin{aligned}(5) \quad -23 + 7x &= 4x + 7 \\ -23 + 3x &= 7 \\ 3x &= 30 \\ x &= 10\end{aligned}$$

$$\begin{aligned}(6) \quad 3x - 46 &= 14 - x \\ -46 + 4x &= 14 \\ 4x &= 60 \\ x &= 15\end{aligned}$$

$$\begin{aligned}(7) \quad 6x - 68 &= 22 - 4x \\ -68 + 10x &= 22 \\ 10x &= 90 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(8) \quad -21 - 6x &= -8x + 13 \\ -21 + 2x &= 13 \\ 2x &= 34 \\ x &= 17\end{aligned}$$

$$\begin{aligned}(9) \quad -22 + 4x &= 14 + 2x \\ -22 + 2x &= 14 \\ 2x &= 36 \\ x &= 18\end{aligned}$$

$$\begin{aligned}(10) \quad -68 - x &= 23 - 8x \\ -68 + 7x &= 23 \\ 7x &= 91 \\ x &= 13\end{aligned}$$

$$\begin{aligned}(11) \quad 6x - 19 &= 3x + 8 \\ -19 + 3x &= 8 \\ 3x &= 27 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(12) \quad -23 - 3x &= -7x + 25 \\ -23 + 4x &= 25 \\ 4x &= 48 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(13) \quad 9x - 136 &= -3x + 44 \\ -136 + 12x &= 44 \\ 12x &= 180 \\ x &= 15\end{aligned}$$

$$\begin{aligned}(14) \quad -x - 83 &= -9x + 29 \\ -83 + 8x &= 29 \\ 8x &= 112 \\ x &= 14\end{aligned}$$