

Workouts

$$\begin{aligned} 10x + 3 &= 5x - 47 \\ 10x - 5x + 3 &= 5x - 5x - 47 \\ 5x + 3 &= -47 \\ 5x + 3 - 3 &= -47 - 3 \\ 5x &= -50 \\ \frac{5x}{5} &= \frac{-50}{5} \\ x &= -10 \end{aligned}$$

$$\begin{aligned} 10x - 20 &= 7x - 8 \\ 10x - 7x - 20 &= 7x - 7x - 8 \\ 3x - 20 &= -8 \\ 3x - 20 + 20 &= -8 + 20 \\ 3x &= 12 \\ \frac{3x}{3} &= \frac{12}{3} \\ x &= 4 \end{aligned}$$

$$\begin{aligned} 5x - 1 &= 4x \\ 5x - 4x - 1 &= 4x - 4x \\ 1x - 1 &= 0 \\ 1x - 1 + 1 &= 0 + 1 \\ 1x &= 1 \\ \frac{1x}{1} &= \frac{1}{1} \end{aligned}$$

$$\begin{aligned} 7x - 6 &= 6x \\ 7x - 6x - 6 &= 6x - 6x \\ 1x - 6 &= 0 \\ 1x - 6 + 6 &= 0 + 6 \\ 1x &= 6 \\ \frac{1x}{1} &= \frac{6}{1} \end{aligned}$$

$$\begin{aligned} 3x - 9 &= 10x + 19 \\ 10x + 19 &= 3x - 9 \\ 10x - 3x + 19 &= 3x - 3x - 9 \\ 7x + 19 &= -9 \\ 7x + 19 - 19 &= -9 - 19 \\ 7x &= -28 \\ \frac{7x}{7} &= \frac{-28}{7} \\ x &= -4 \end{aligned}$$

$$\begin{aligned} 16x + 36 &= 29x - 42 \\ 29x - 42 &= 16x + 36 \\ 29x - 16x - 42 &= 16x - 16x + 36 \\ 13x - 42 &= 36 \\ 13x - 42 + 42 &= 36 + 42 \\ 13x &= 78 \\ \frac{13x}{13} &= \frac{78}{13} \quad x = 6 \end{aligned}$$

$$\begin{aligned} 29x + 41 &= 26x + 35 \\ 29x - 26x + 41 &= 26x - 26x + 35 \\ 3x + 41 &= 35 \\ 3x + 41 - 41 &= 35 - 41 \\ 3x &= -6 \\ \frac{3x}{3} &= \frac{-6}{3} \\ x &= -2 \end{aligned}$$

$$\begin{aligned} 15x - 27 &= 11x + 5 \\ 15x - 11x - 27 &= 5 \\ 4x - 27 &= 5 \\ 4x - 27 + 27 &= 5 + 27 \\ 4x &= 32 \\ \frac{4x}{4} &= \frac{32}{4} \\ x &= 8 \end{aligned}$$

$$\begin{aligned} 12x - 28 &= 18x - 88 \\ 18x - 12x - 28 &= 18x - 18x - 88 \\ 6x - 28 &= -88 \\ 6x - 28 + 28 &= -88 + 28 \\ 6x &= -60 \\ \frac{6x}{6} &= \frac{-60}{6} \\ x &= -10 \end{aligned}$$

$$\begin{aligned} 13x + 34 &= 18x + 84 \\ 18x + 84 &= 13x + 34 \\ 18x - 13x + 84 &= 13x - 13x + 34 \\ 5x + 84 &= 34 \\ 5x + 84 - 84 &= 34 - 84 \\ 5x &= -50 \\ \frac{5x}{5} &= \frac{-50}{5} \\ x &= -10 \end{aligned}$$

Workouts

$$\begin{aligned} 2x + 3.1 &= x + 2.8 \\ 2x - x + 3.1 &= x - x + 2.8 \\ x + 3.1 &= 2.8 \\ 2x + 3.1 - 3.1 &= 2.8 - 3.1 \\ x &= -0.3 \end{aligned}$$

$$\begin{aligned} -3x - 1.3 &= 3x - 4.9 \\ \cancel{3x} + \cancel{3x} - 1.3 &= \cancel{3x} - \cancel{3x} - 4.9 \\ -6x - 1.3 &= -4.9 \\ -6x - 1.3 + 1.3 &= -4.9 + 1.3 \\ -6x &= -3.6 \\ \frac{-6x}{-6} &= \frac{-3.6}{-6} \end{aligned}$$

$$\begin{aligned} 5x - 1.6 &= 9x - 0 \\ 9x - 0 &= 5x - 1.6 \\ 9x - 5x - 0 &= 5x - 5x - 1.6 \\ 4x - 0 &= -1.6 \\ 4x &= -1.6 \\ \frac{4x}{4} &= \frac{-1.6}{4} \end{aligned}$$

$$\begin{aligned} 2x - 3.4 &= -2x - 1.4 \\ 2x + 2x - 3.4 &= -2x + 2x - 1.4 \\ 4x - 3.4 &= -1.4 \\ 4x - 3.4 + 3.4 &= -1.4 + 3.4 \\ 4x &= 4.8 \\ \frac{4x}{4} &= \frac{4.8}{4} \\ x &= 1.2 \end{aligned}$$

$$\begin{aligned} 3x - 2x + 3.6 &= 2x - 2x + 2.7 \\ x + 3.6 - 3.6 &= 2.7 - 3.6 \end{aligned}$$

$$\begin{aligned} -4x - 3.3 &= 7x + 1.1 \\ 7x + 1.1 &= -4x - 3.3 \\ 7x + 4x + 1.1 &= \cancel{4x} + \cancel{4x} - 3.3 \\ 11x + 1.1 &= -3.3 \\ 11x + 1.1 - 1.1 &= -3.3 - 1.1 \\ 11x &= -4.4 \\ \frac{11x}{11} &= \frac{-4.4}{11} \end{aligned}$$

$$\begin{aligned} -5x - 3.9 &= -3x - 5.7 \\ -5x + 3x - 3.9 &= -3x + 3x - 5.7 \\ -2x - 3.9 &= -5.7 \\ -2x - 3.9 + 3.9 &= -5.7 + 3.9 \\ -2x &= -1.8 \\ \frac{-2x}{-2} &= \frac{-1.8}{-2} \end{aligned}$$

$$\begin{aligned} -3x + 2.7 &= 9x + 0.3 \\ \cancel{-3x} - \cancel{9x} + 2.7 &= 9x - 9x + 0.3 \\ -12x + 2.7 &= 0.3 \\ -12x + 2.7 - 2.7 &= 0.3 - 2.7 \\ -12x &= -2.4 \\ \frac{-12x}{-12} &= \frac{-2.4}{-12} \end{aligned}$$

$$\begin{aligned} -8x - 2.9 &= 6x - 8.5 \\ -8x - 6x - 2.9 &= 6x - 6x - 8.5 \\ -14x - 2.9 &= -8.5 \\ -14x - 2.9 + 2.9 &= -8.5 + 2.9 \\ -14x &= -5.6 \\ \frac{-14x}{-14} &= \frac{-5.6}{-14} \end{aligned}$$

Rigour - solving eqns
yr 9 student's work.