

Warm-up:

Solve the equation

1. $-3.2x = 7.4$

$$\begin{array}{r} -3.2x = 7.4 \\ -3.2 \quad -3.2 \\ \hline \end{array}$$

$$x = -2.3125$$

2. $\frac{3}{4} = x - \frac{2}{3}$

$$\begin{array}{r} \frac{3}{4} = x - \frac{2}{3} \\ +\frac{2}{3} \quad +\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{l} 3 \cdot \frac{3}{4} + \frac{2 \cdot 4}{3 \cdot 4} = x \\ \frac{9}{12} + \frac{8}{12} = x \end{array}$$

$$x = \frac{17}{12}$$

Steps for Solving Two-Step Equations:

- ① Circle your variable \Rightarrow Draw a line down from the =
- ② Friend \rightarrow inverse operations
- ③ Best Friend \rightarrow inverse operations
- ④ $x = \underline{\quad}$

Ex. 1: $2x + 3 = 7$

$$\begin{array}{r} 2x + 3 = 7 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 4 \\ \div 2 \quad \div 2 \\ \hline \end{array}$$

$$x = 2$$

Ex. 2: $5 + 2n = -1$

$$\begin{array}{r} 5 + 2n = -1 \\ -5 \quad -5 \\ \hline \end{array}$$

$$\begin{array}{r} 2n = -6 \\ \div 2 \quad \div 2 \\ \hline \end{array}$$

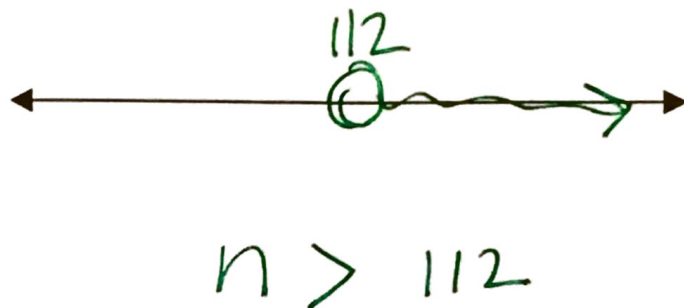
$$n = -3$$

Ex. 3:

$$25 < \frac{1}{4}n - 3$$

$$\begin{array}{r} +3 \\ \hline 4 \cdot 28 < \frac{1}{4}n \cdot 4 \\ \hline 112 < n \end{array}$$

$112 < n$



Ex. 4:

$$6 - 3x = 21$$

$$\begin{array}{r} -6 \\ \hline -3x = 15 \\ \hline -3 \\ \hline x = -5 \end{array}$$

$x = -5$

$$6 - 3(-5) = 21$$

$$6 - -15 = 21$$

$$6 + 15 = 21 \checkmark$$

Ex. 5:

$$\frac{n}{-3} - 2 \geq -18$$

$$\begin{array}{r} +2 \\ \hline \frac{n}{-3} \geq -16 \\ \hline \frac{1}{-3} \cdot \frac{n}{-3} \geq -16 \cdot -3 \\ \hline n \leq 48 \end{array}$$

$n \leq 48$



Ex. 6:
$$\frac{-4}{-2} = \frac{1}{3}z + \frac{2}{-2}$$

$$\frac{3}{1} \cdot \frac{-4}{-2} = \frac{1}{3}z \cdot \frac{3}{3} + \frac{2}{-2} \cdot \frac{3}{3}$$

$$\boxed{-18 = 2}$$

Ex. 7:
$$7 \cdot \frac{x+5}{7} = 3 \cdot 7$$

$$x+5 = 21$$

$$\begin{array}{r} x+5 = 21 \\ -5 \quad -5 \end{array}$$

$$\boxed{x = 16}$$

$$\frac{16+5}{7} = 3$$

✓

Ex. 8:
$$-4 \cdot \frac{x-6}{-4} = -8 \cdot -4$$

$$x-6 = 32$$

$$\begin{array}{r} x-6 = 32 \\ +6 \quad +6 \end{array}$$

$$\boxed{x = 38}$$