

Ch. 3 One-Step Equations

* Goal when solving an equation is get the variable alone on one side of the equation.

To do that - Perform the inverse operation on both sides of the equation

(ex) the inverse of addition is subtraction
inverse of \div is mult.

Examples:

$$\textcircled{1} \begin{array}{r} x - 5 = 14 \\ +5 \quad +5 \\ \hline \boxed{x = 19} \end{array}$$

~~$$x - 5 = 14 + 5 = 19$$~~

$\checkmark 19 - 5 = 14$

$$\textcircled{2} \begin{array}{r} -7 = x + 7 \\ -7 \quad -7 \\ \hline -14 = x \end{array}$$

you can rewrite

~~$$x + 7 = -7$$~~

$$x = -14$$

~~$$\textcircled{3} \frac{x}{4} = 8.4$$~~

$x = 32$

$\checkmark \frac{32}{4} = 8 \checkmark$

$$\textcircled{4} \frac{9}{3} = \frac{3 \cdot x}{3}$$

or

$$\frac{3x}{3} = \frac{9}{3}$$

$$\boxed{3 = x}$$

$$\textcircled{5} \quad \frac{10 \cdot x}{10} = \frac{-2}{10}$$

$$\boxed{x = -\frac{1}{5}}$$

$$\textcircled{6} \quad x + 3.8 = 9$$

$$\begin{array}{r|l} -3.8 & -3.8 \\ \hline x & 5.2 \end{array}$$

$$\boxed{x = 5.2}$$

$$\textcircled{7} \quad \left(\frac{3}{2}\right) \frac{2}{3} x = -6 \left(\frac{3}{2}\right)$$

$$\boxed{x = -9}$$

← only mult. by reciprocal when a fraction is multiplied by the variable

$$\textcircled{8} \quad x + \frac{9}{4} = \frac{13}{2} \rightarrow \frac{26}{4}$$

$$\begin{array}{r|l} -\frac{9}{4} & -\frac{9}{4} \quad -\frac{9}{4} \\ \hline x & \frac{17}{4} \end{array}$$

$$\boxed{x = \frac{17}{4}} \text{ or } 4\frac{1}{4}$$

Day 15

ALGEBRA I Ch. 3
BEGINNING EQUATIONS

1. Cut the squares apart.
2. Match each equation to the corresponding solution.
3. You should get a new 4x4 square.

$10 = x + 1$ $x = 25$ 1 $x = 2$ $x - \frac{5}{3} = \frac{50}{3}$	$51 = 8 - x$ $x = 28$ 2 $x = 8$ $\frac{7}{3} + x = 9\frac{7}{3}$	$6 = x \frac{3}{7}$ $\frac{10}{1} = x$ 3 $x = 50$ $7x = 21$	$\frac{27}{54} = \frac{2}{7} + x$ $\frac{3}{5}x = 15$ 4 $x = 10$ $8 = x \frac{4}{7}$
$x = 39$ $3 \cdot 7x = 37$ 5 $x = 9$ $4\frac{1}{5}x = 400$	$x = 20$ $x = 3$ 6 $x = 95$ $x = 5$	$x = 4$ $x = 17$ 7 $\frac{2}{3}x = 26$ $7x = 27$	$x = 13$ $x = 121$ 8 $x = 11$ $54 = x$
$x = 30$ $10 = x$ 9 $\frac{x}{3} = 15$ $x = 6$	$77 = x$ $x = 14$ 10 $x = 24$ $3 + x = 15$	$10 = x \frac{3}{7}$ $\frac{3}{7}x = 21$ 11 $x = 147$ $91 = x$	$x = 157$ $x = 1$ 12 $10 = \frac{1}{x}$ $3x = 12$
$61 = x$ $x = 12$ 13 $5 \cdot 3x = 106$ $x = 22$	$x = 75$ $x = 38$ 14 $3x = 21$ $x = 49$	$33 = x$ $x = 15$ 15 $x = 81$ $\frac{1}{5}x = 15$	$x = 7$ $x = 500$ 16 $x = 7 = x$ $x + \frac{3}{5} = \frac{13}{5}$