

Solving One- step Equations

Sections ~~3.1-3.2~~

3.1-3.2

Solving for the variable

- **GOAL:** To get the variable by itself
- **Steps:**
 - “Undo” by performing the opposite operation
 - Follow the REVERSE of the order of operations

Examples: Adding/Subtracting

$$1. \ x + 5 = 6$$

~~-5~~ ~~-5~~

$$x = 1$$

$$2. \ x + 3 = -12$$

~~-3~~ ~~-3~~

$$x = -15$$

$$3. \ 6 = a + 4$$

~~-4~~ ~~-4~~

$$2 = a$$

$$4. \ 6 + b = 4$$

~~-6~~ ~~-6~~

$$b = -2$$

Examples: Adding/Subtracting

5. $x - 6 = 7$

~~$x - 6$~~ $+6$
 $x = 13$

7. $-4 = a - 7$

~~-4~~ $+7$
 $3 = a$

6. $x - (-4) = 12$

~~$x - 4$~~ $+4$
 $x = 8$

8. $13 = c - (-3)$

$13 = c + 3$
 -3 -3
 $10 = c$

Classwork

Pg 135 # 4-12

⑧

$$\begin{array}{r} 8 - \boxed{x} = 4 \\ -8 \quad -8 \\ \hline \boxed{x} = -4 \\ \hline x = 4 \end{array}$$

⑥

$$\begin{array}{r} 7 + c = -10 \\ -7 \quad -7 \\ \hline \boxed{c = -17} \end{array}$$

Start \boxed{x}

$$\begin{array}{r} \text{Spent} - 4.65 \\ \hline \text{Left} \quad 7.39 \end{array}$$
$$\begin{array}{r} x - 4.65 = 7.39 \\ +4.65 \quad +4.65 \\ \hline \boxed{x = 12.04} \end{array}$$

Examples: Multiplying/Dividing

1. $3x = 6$
~~3~~ | ~~3~~

$x = 2$

3. $-9b = -36$
~~-9~~ | ~~-9~~

$b = 4$

2. $4x = 60$
~~4~~ | ~~4~~

$x = 15$

4. $34 = -2x$
~~-2~~ | ~~-2~~

$-17 = x$

Examples: Multiplying/Dividing

$$5. \cancel{5} \cdot \frac{x}{5} = 7.5$$
$$x = 35$$

$$6. \cancel{3} \cdot \frac{x}{-3} = -8 \cdot -3$$
$$x = 24$$

$$7. \cancel{4} \cdot \frac{x}{4} = -7 \cdot 4$$
$$x = -28$$

$$8. \cancel{9} \cdot \frac{x}{9} = 8 \cdot \cancel{9}$$
$$8 = x$$

Classwork

Pg 141 # 4-13

⑦ $\frac{5}{6}a = -10 \cdot 6$
 $\frac{5}{6}a = -60$
 $a = -12$

⑧ $\frac{-7b}{-8} = \frac{-4}{-7}$
 $b = \frac{4}{7}$

⑩ $\frac{-3}{8}x = -6 \cdot 8$
 $\frac{-3}{8}x = -48$
 $x = 16$

⑨ $\frac{-3x}{-3} = \frac{5}{-3}$
 $x = \frac{-5}{3}$

⑪ $\frac{1}{7}x = \frac{1}{7}$
 $x = 1$

b-7

Classwork - together

- Pg 135 # 13-20 – out loud
- Pg 135 # 42-44
- Pg 142 # 14-19- out loud
- Pg 142 # 48-54



Homework

- Pg 135 # 21-35
- Pg 142 # 24-38