

B.1 Solving One Step Equations

An equation is a statement which two expressions are equal.

To solve a problem and find the solution, we use the properties of equality to get equivalent equations.

Addition property of equality:

$$\text{If } a=b, \text{ then } a+c=b+c$$

Subtraction property of equality:

$$\text{If } a=b, \text{ then } a-c=b-c$$

Multiplication property of equality:

$$\text{If } a=b, \text{ then } ac=bc$$

Division property of equality:

$$\text{If } a=b, \text{ then } a/c=b/c$$

Whatever
you do to
one side,
do to the
other side.

$$\frac{12x}{12} = \frac{180}{12}$$

$$x = 15$$

$$\frac{-5t}{-5} = \frac{60}{-5}$$

$$t = -12$$

$$\frac{15}{6} = \frac{5}{2}$$

$$\begin{array}{l} (4) \left. \begin{array}{l} d = 8 \\ 5 \end{array} \right\} (5) \\ d = 40 \end{array}$$

$$\frac{15 = 6n}{6} = \frac{6}{6} = n$$

$$\frac{5}{2} \text{ is } 2.5 = n$$

$$(12) \frac{a}{12} = 5 \quad (12)$$

$$g = 60$$

$$\frac{-7 + x = 8}{+7 \quad -7}$$

$$x = 15$$

$$\frac{x+3=8}{-3 \quad -3}$$

$$x=5$$

$$\frac{-8 = 2+y}{-2 \quad -2}$$

$$-10 = y$$

$$\frac{0 = -8+c}{8 \quad +8}$$

$$8 = c$$

$$\frac{c-4.5=2.7}{4.5 \quad 4.5}$$

$$c = 7.2$$

$$\frac{s+(-28)=-5}{28 \quad 28}$$

$$s = 23$$