

Solving Equations

You will be able to: Solve one-step equations by using inverse operations to isolate the variable.

You will be able to: Write an equation from a word problem and solve the word problem

Next: You will be able to solve one-step equations w/ distributive property

What is x equal to?

$$3+x+2=9$$

Solving Equations

- Combine any like terms that are on the same side of the = sign.

$$\begin{aligned} 3x+2x-3 &= 9 \\ 5x-3 &= 9 \end{aligned}$$

- Perform **inverse** operations to **isolate** the variable

- Inverse Operations:

$$(-, +) \quad (*, \div)$$

- Isolate:

Set apart by itself

$$\begin{aligned} (9)+10 &= 19 \\ 19 &= 19 \end{aligned}$$

$$\begin{array}{r|l} k+10 & = 19 \\ -10 & -10 \\ \hline k+0 & = 9 \\ \hline k & = 9 \end{array}$$

$$\begin{aligned} (31)-4 &= 27 \\ 27 &= 27 \\ \hline w-4+4 & \\ w+0 & \end{aligned}$$

$$\begin{array}{r|l} w-4 & = 13+14 \\ \hline w-4 & = 27 \\ +4 & = +4 \\ \hline w & = 31 \end{array}$$

$$\begin{aligned} 2y+4 &= 12 \\ 2y+4-4 &= 12-4 \\ 2y &= 8 \\ \frac{2y}{2} &= \frac{8}{2} \\ y &= 4 \\ y &= 4 \end{aligned}$$

$$\frac{4b}{4} = 16 \quad \frac{4}{1} \left(\frac{b}{4} \right) = 17 \cdot 4 \quad 17$$

$$b = 68$$

$$\frac{4 \cdot b}{4} = \frac{4b}{4} \quad b = 68$$

$$r + 2r = 27$$

$$r + (r + 1)$$

$$\frac{3r = 27}{3} \quad \frac{27}{3}$$

$$r = 9$$

$$r = 9$$

$$\frac{d+5}{4} = 15$$

$$2x+3y=5$$

Writing Algebraic Equations

Writing One-Step Equations

Think About It!
 Wonka Candy bars cost \$1.50 each.
 You have a total of \$18 to spend on Wonka bars!
 Write an algebraic equation to represent this problem.

