

# Solving Two-Step Equations



## Overview of problems



Example Set: A

Solve the equations-show all work

$$2x + 6 = 18$$

$$-3z + 5 = 26$$

$$10y - 50 = -150$$

$$-w + 9 = -31$$

$$3x - 7 = 23$$

$$\frac{1}{4}x + 2 = 3$$



## Example Set: B

Solve the equations-show all work

$$\frac{1}{3}x + 6 = 10$$

$$6 = 14 - 2x$$

$$-4 + \frac{4}{5}x = -6$$

$$-\frac{2}{5}t + 1 = -2$$

$$\frac{3}{8}w - \frac{1}{4} = \frac{1}{16}$$

$$7 + \frac{m}{11} = -3$$

$$\frac{t}{6} + \frac{1}{3} = \frac{1}{2}$$

$$3p - (-4) = 17$$



## Example Set: C

Solve the equations-show all work

$$5.9x + 2.6 = 14.7$$

$$-1.3y - 108.4 = .015$$

$$.00715 + .3z = -401$$

$$8.9g - .25 = \frac{1}{8}$$



## Example Set: D

The formula below models the population growth for a small town where  $P$  is the population and  $Y$  is the years of growth. Approximately how many days will it take the town to reach a population of 17,500?

$$P = 600Y + 14000$$



# Solving Two-Step Equations



## Overview of problems- KEY



Example Set: A

Solve the equations-show all work

$$2x + 6 = 18 \quad x = 6$$

$$-3z + 5 = 26 \quad z = -7$$

$$10y - 50 = -150 \quad y = -10$$

$$-w + 9 = -31 \quad w = 40$$

$$3x - 7 = 23 \quad x = 10$$

$$\frac{1}{4}x + 2 = 3 \quad x = 4$$



## Example Set: B

Solve the equations-show all work

$$\frac{1}{3}x + 6 = 10 \quad x = 12$$

$$6 = 14 - 2x \quad x = 4$$

$$-4 + \frac{4}{5}x = -6 \quad x = -\frac{5}{2}$$

$$-\frac{2}{5}t + 1 = -2 \quad t = \frac{15}{2}$$

$$\frac{3}{8}w - \frac{1}{4} = \frac{1}{16} \quad w = \frac{5}{6}$$

$$7 + \frac{m}{11} = -3 \quad m = -110$$

$$\frac{t}{6} + \frac{1}{3} = \frac{1}{2} \quad t = 1$$

$$3p - (-4) = 17 \quad p = \frac{13}{3}$$



## Example Set: C

Solve the equations-show all work

$$5.9x + 2.6 = 14.7$$

$$x = 2.050$$

$$-1.3y - 108.4 = .015$$

$$y = -83.396$$

$$.00715 + .3z = -401$$

$$z = -1336.6905$$

$$8.9g - .25 = \frac{1}{8}$$

$$g = .04213$$



## Example Set: D

The formula below models the population growth for a small town where  $P$  is the population and  $Y$  is the years of growth. Approximately how many days will it take the town to reach a population of 17,500?

2127.95 days

$$P = 600Y + 14000$$

