

1.5 Solving Multi-Step Equations

Goal to Solving Equations

- To Isolate (get alone) the variable by using the inverse operations
 - opposite of addition → subtraction
 - opposite of subtraction → addition
 - opposite of multiplication → division
 - opposite of division → multiplication
- solution → the value of the variable in an equation that makes the statement TRUE
- Are able to check your solution by substituting the solution into the Original equation and if the statement equals then the your answer is correct.

Example 1: (Continued)

i.) $5 - 2x = -3$

$-2x = -8$
 $\frac{-2x}{-2} = \frac{-8}{-2}$
 $x = 4$

{4}

Check
 $5 - 2(4) = -3$
 $5 - 8 = -3$
 $-3 = -3$

j.) $4x + 2x = -5 - 7$

$6x = -12$
 $\frac{6x}{6} = \frac{-12}{6}$
 $x = -2$

{-2}

Check

$4(-2) + 2(-2) = -5 - 7$
 $-8 - 4 = -12$
 $-12 = -12$

k.) $4 - (2x + 3) = -7$

$4 - 2x - 3 = -7$
 $1 - 2x = -7$
 $-2x = -8$
 $\frac{-2x}{-2} = \frac{-8}{-2}$
 $x = 4$

{4}

l.) $6(2 + 7x) + 8(x - 8) = 48$

$12 + 42x + 8x - 64 = 48$

$50x - 52 = 48$
 $+52 \quad +52$

$50x = 100$
 $\frac{50x}{50} = \frac{100}{50}$

$x = 2$

{2}

m.) $\frac{x}{6} + \frac{2}{3} = -4$

n.) $4 - \frac{1}{3}(x - 9) = 11$

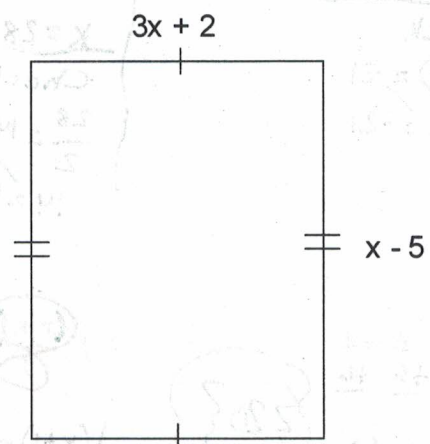
Solving Equations Using Geometry Figures

For Geometric Figures →

- Use the steps for solving normal equations, but apply the geometry formulas for area and perimeter.

Example 2: Solve for each matrix, the missing variables, or what is asked.

a.) Find the value of x if the perimeter is 50.



b.) What is the value of angle B?

