

## 7th Grade

## 3.2 Solving Addition &amp; Subtraction Equations

Inverse Property of Addition:  $-|+|=0$ 

Inverse operations "undo" each other.

addition can "undo" subtraction

subtraction can "undo" addition

Addition Property of Equality:

for  $x - a = b \rightarrow x = b + a$   
+a +a

ex)  $x - 9 = 3$        $12 - 9 = 3$   
+9 +9  
 $x = 12$

ex)  $6 = -3 + w$        $+ -3$   
+3 +3       $= -3$   
 $9 = w$        $-3 + 9 = 6$

Subtraction Property of Equality:

for  $x + a = b \rightarrow x = b - a$   
-a -a

ex)  $x + 3 = -9$        $-12 + 3 = -9$   
-3 -3  
 $x = -12$

ex)  $-7 = 4 + y$        $-7 = 4 + -11$   
-4 -4  
 $-11 = y$

Solve

$$1) \boxed{x+4} = -9$$

$$\boxed{x = -13}$$

$$2) 1 = \boxed{x-2}$$

$$\boxed{3 = x}$$

$$3) -14 + \boxed{y} = 20$$

$$\boxed{y = 34}$$

$$4) -12 = -8 + \boxed{z}$$

$$\boxed{-4 = z}$$

You Try:

$$a) y + 6 = -9$$

$$\boxed{y = -15}$$

$$b) x + 3 = 1$$

$$\boxed{x = -2}$$

$$c) -3 = p + 4$$

$$\boxed{-7 = p}$$

$$d) y - 3 = 4$$

$$\boxed{y = 7}$$

$$e) r - 4 = -2$$

$$\boxed{r = 2}$$

$$f) -9 = n - 8$$

$$\boxed{-1 = n}$$

**SPORTS** Tiger Woods won the 2002 Masters Championship with a final score of 12 under par, or  $-12$ . His scores for the first three rounds were  $-2$ ,  $-3$ , and  $-6$ . What was his score for the fourth round?

$$\underbrace{-2 + -3 + -6}_{-11} + x = -12$$

$$\begin{array}{r} -11 \\ +11 \\ \hline \end{array} + x = -12$$

$$x = -1$$

# Homework

pg 158; 4-38, 40, 42-50