

Adding and Subtracting Integers

Consider these patterns:

Adding a negative number is the same as subtracting a positive number.

$$\begin{array}{rcl} 5 + 2 & = & 7 \\ 5 + 1 & = & 6 \\ 5 + 0 & = & 5 \\ \left\{ \begin{array}{l} 5 + -1 = 4 \\ 5 + -2 = 3 \\ 5 + -3 = 2 \end{array} \right. & \text{and} & \left\{ \begin{array}{l} 5 - 2 = 3 \\ 5 - 1 = 4 \\ 5 - 0 = 5 \\ 5 - -1 = 6 \\ 5 - -2 = 7 \\ 5 - -3 = 8 \end{array} \right. \end{array}$$

Subtracting a negative number is the same as adding a positive number.

Example

Find:

a $6 + -3$

b $6 - -3$

c $-6 + -3$

d $-6 - -3$

$$\begin{aligned} \mathbf{a} \quad 6 + -3 \\ &= 6 - 3 \\ &= 3 \end{aligned}$$

$$\begin{aligned} \mathbf{b} \quad 6 - -3 \\ &= 6 + 3 \\ &= 9 \end{aligned}$$

$$\begin{aligned} \mathbf{c} \quad -6 + -3 \\ &= -6 - 3 \\ &= -9 \end{aligned}$$

$$\begin{aligned} \mathbf{d} \quad -6 - -3 \\ &= -6 + 3 \\ &= -3 \end{aligned}$$

1 Find:

a $8 + -5$

b $8 - -5$

c $-8 + -5$

d $-8 - -5$

e $4 + -9$

f $4 - -9$

g $-4 + -9$

h $-4 - -9$

i $-2 - 8 - -6 + -1$

j $-3 + -4 - -6$

k $11 - 17 - -5$

l $-12 - 8 + 17 - 9$

m $-63 - 258$

n $174 - 317$

o $-28 - 39 - 47$

