

Alg 1A
2.4 Subtracting integers

Subtract integers
Use SMATO to add integers

integer
smato
difference

$$2 - 5 = 2 + -5 = -3$$

$$-22 + -12 = -34$$

Examples

Find each difference.

1

$6 - 4$

$6 - 4 = 2$ subtract 4, add -4.

2

$-5 - (-3)$

$-5 + 3 = -2$ To subtract -3, add 3.

3

$-3 - 2$

$-3 + -2 = -5$ To subtract 2, add -2.

4

$4 - 1$

$4 + 1 = 5$ subtract -1, add 1.

5

$2 - 5$

$2 + -5 = -3$ To subtract 5, add -5.

6

$-3 - (-6)$

$-3 + 6 = 3$ To subtract -6, add 6.

$-3 - (6)$

$-3 + -6 = -9$

$4 + 1$

$4 + 1$

Your Turn

a. $9 - 3$

b. $-7 - (-2)$

c. $-8 - 3$

d. $5 - (-1)$

e. $-4 - 6$

f. $-7 - (-11)$

Examples**7** Evaluate $x - y$ if $x = -2$ and $y = 1$.

$$\begin{aligned} & (-2) + (-1) \\ & \quad \quad \quad = -3 \end{aligned} \qquad -2 + (-1) = -3$$

*with 1.
-1).*

$$(\quad) - (\quad)$$

and c with -6.

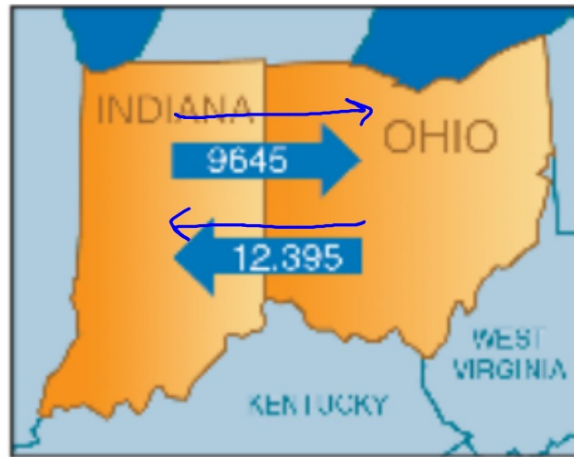
$$\begin{aligned} & = 8 + (-6) & 6 + 2 = 8 \\ & = 2 & 8 + (-6) = 2 \end{aligned}$$

$$\begin{aligned} & (5) + (+3) \\ & = 8 \end{aligned}$$

Your Turn**g.** Evaluate $m - n$ if $m = 5$ and $n = -3$.**h.** Evaluate $w - x + y - z$ if $w = -5$, $x = -7$, $y = 10$, and $z = -5$.

9

The map shows the number of people who moved to Ohio from Indiana in a recent year. It also shows the number of people who left Ohio for Indiana. The change in Ohio's population p can be found by using the formula $p = m - l$, where m is the number of people moving to Ohio and l is the number of people leaving Ohio.



$$9645 - 12395$$

$$p = 9645 - 12,395$$

Find the net change in Ohio's population resulting from people moving to and from Indiana.

$$= -2750$$

Getting Ready

Write each expression as an addition expression.

Sample: $4 - (-3)$

Solution: $4 + 3$

3. $10 + 3$

4. $-2 + (+5)$

5. $-4 + 8$

Find each difference. (Examples 1–6)

6. $8 - 2$

7. $-6 - (-4)$

8. $-5 - 4$

9. $7 - (-4)$

10. $8 - 11$

11. $-4 - (-9)$

Evaluate each expression if $a = -2$, $b = 6$, $c = -3$, and $d = -1$.

(Examples 7 & 8)

12. $a - b$

13. $b - c + d$

14. **Population** In a recent year, 5899 people moved to Ohio from West Virginia, and 5394 people left Ohio for West Virginia. Find the net change in Ohio's population. (Example 4)

$$\begin{array}{r}
 +5899 \\
 +5394 \\
 \hline
 +505
 \end{array}$$

$$\begin{array}{r}
 +5899 \\
 + \\
 5394 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5394 - 5899 \\
 = -505
 \end{array}$$

Quiz

HW

ET