

Alg 1A
2.4 Subtracting integers

Subtract integers
Use SMATO to add integers

integer
smato
difference

Examples

Find each difference.

1

$6 - 4$

To subtract 4, add -4 .

$$6 + (-4) = 2$$

2

$-5 - (-3)$

$$-5 + 3 = -2$$

To subtract -3 , add 3.

3

$-3 - 2$

$$-3 + (-2) = -5$$

To subtract 2, add -2 .

4

$4 - (-1)$

$$4 + 1 = 5$$

To 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.

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 $y = 1$.

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

8 Evaluate $a - b + c$ if $a = 6$, $b = -2$, and $c = -6$.

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

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 $z = -5$.

$$\begin{aligned} &w - x + y - z \\ &-5 + 7 + 10 + 5 \\ &\quad \underbrace{\quad} \quad \underbrace{\quad} \\ &\quad 2 \quad + \quad 15 \\ &\quad 17 \end{aligned}$$

$$5 + 3 = 8$$

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.



$$p = 9645 - 12,395 = -2750$$

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

$$\begin{array}{ccc} 9645 & - & 12395 = -2750 \\ \uparrow & & \uparrow \end{array}$$

Getting Ready

Write each expression as an addition expression.

Sample: $4 - (-3) = 4 + 3$

Solution: $4 + 3$

3. $10 - 3$ $10 + -3$
7

4. $-2 - (-5)$
 $-2 + 5 = 3$

5. $-4 - 8$
 $-4 + -8 =$

Smato

Find each difference. (Examples 1-6)

6. $8 - 2$

7. $-6 - (-4)$

8. $-5 - 4$

9. $7 - (-4)$

10. $8 - 11$

11. $-4 - (-9)$

-12

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 9)