11–3 Subtracting Integers

MAIN IDEA
- Subtract integers.

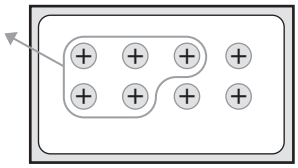
KEY CONCEPT

Subtracting Integers To subtract an integer, add its opposite.

EXAMPLE 1 Subtract Positive Integers

Find 8 – 5.

METHOD 1 Use counters.



Place ____ positive counters on the mat to show +8. Then, remove ____ positive counters.

METHOD 2 Add the opposite.

$8 - 5 = 8 + (\quad)$ To subtract 5, add ____.

$= \quad$

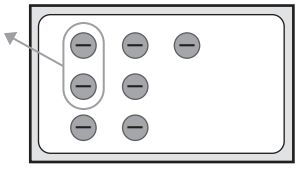
So, $8 - 5 =$ ____.

Check Your Progress Find 9 – 2.

EXAMPLE 2 Subtract Negative Integers

Find –7 – (–2).

METHOD 1 Use counters.



Place 7 ____ counters on the mat to show –7. Then, remove 2 ____ counters.

WRITE IT

Think about the number line. How is subtracting negative integers similar to adding positive integers?

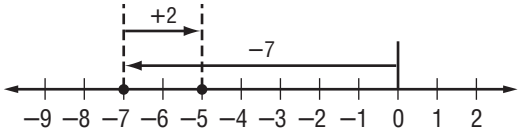
METHOD 2 Add the opposite.

$-7 - (-2) = -7 +$ ☐ To subtract -2, add ☐.

$=$ ☐

So, $-7 - (-2) =$ ☐.

Check Use a number line to find $-7 + 2$.

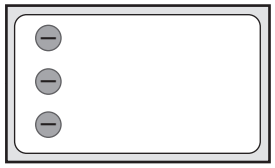


Check Your Progress Find $-8 - (-5)$.

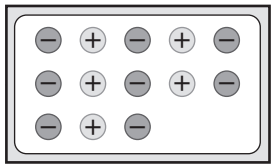
EXAMPLE **Subtract Integers Using Zero Pairs**

3 **Find $-3 - 5$.**

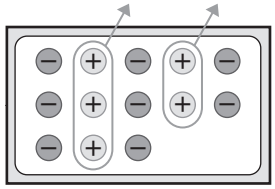
METHOD 1 Use counters.



Place 3 negative counters on the mat to show ☐.



Since there are no positive counters, add 5 ☐.

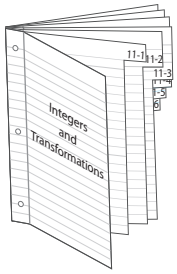


Now remove ☐ positive counters.

FOLDABLES

ORGANIZE IT

Under the Lesson 11–3 tab of your Foldable, write what you learn about subtracting positive integers, subtracting negative integers, and subtracting integers using zero pairs. Include examples.



METHOD 2 Add the opposite.

$-3 - 5 = -3 + (\square)$ To subtract 5, add $\square$.

$= \square$

So, $-3 - 5 = \square$.

Check Your Progress Find $-6 - 1$.

EXAMPLE

4 **SEA LEVEL** **Parts of Death Valley in California are below sea level. A hiker starts at an elevation of 12 feet above sea level. Then she hikes to an elevation that is 8 feet below sea level. What is the difference between the two elevations?**

Subtract 8 feet below sea level from 12 feet above sea level.

$12 - (-8) = 12 + \square$ To subtract -8, add $\square$.

$= \square$ Simplify.

The difference between the two elevations is $\square$ feet.

Check Your Progress **WEATHER** Yesterday's low temperature was 5°F. If today's low temperature is expected to be −3°F, what is the difference between these two temperatures?

HOMEWORK ASSIGNMENT

Page(s):

Exercises: