ACTIVITY 2.2

Developing Concepts

*Group Activity for use with Lesson 2.2*

# Modeling Addition of Integers

**GROUP ACTIVITY**
Work with a partner.

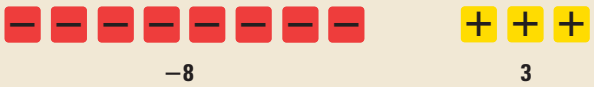
**MATERIALS**
algebra tiles

## QUESTION How can you model addition of integers with algebra tiles?

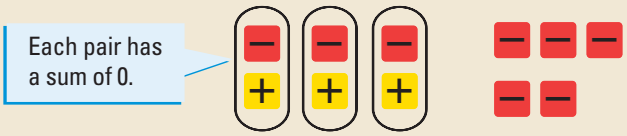
## EXPLORING THE CONCEPT

To model addition problems involving positive and negative integers, you can use tiles labeled + and −. Each + represents positive 1, and each − represents negative 1. Combining a + with a − gives 0. You can use algebra tiles to find the sum of −8 and 3.

**1** Model negative 8 and positive 3 using algebra tiles.




**2** Group pairs of positive and negative tiles. Count the remaining tiles.




**3** The remaining tiles show the sum of −8 and 3.

Complete the statement: $-8 + 3 =$ ?.

## DRAWING CONCLUSIONS

**Use algebra tiles to find the sum. Sketch your solution.**

**1.** $4 + 5$ **2.** $3 + 3$ **3.** $-4 + (-2)$

**4.** $-1 + (-7)$ **5.** $-3 + 2$ **6.** $5 + (-2)$

**7.** $-6 + 6$ **8.** $2 + (-2)$ **9.** $-6 + (-3)$

**Use your results from Exercises 1–8 to help you decide whether the statement is *true* or *false*. Give an example that supports your answer.**

**10.** The sum of a positive integer and a positive integer is always a positive integer.

**11.** The sum of a negative integer and a negative integer is always a positive integer.

**12.** The sum of a positive integer and a negative integer is sometimes a negative integer.

**13.** The sum of a negative integer and a negative integer is never zero.