

Name: \_\_\_\_\_ Date: \_\_\_\_\_

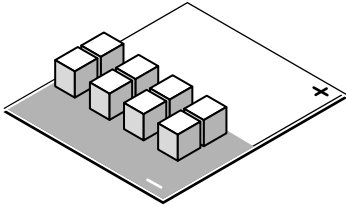
## Lesson 2-2: Adding Positive and Negative Integers

Use Algeblocks and the Basic Mat to model addition.

**Example:** Add:  $-8 + (-3)$

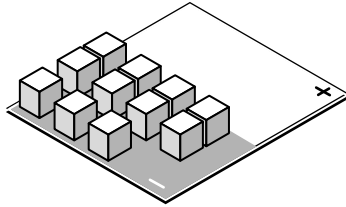
**Step 1.**

Model the first integer on the mat. Remember this integer is negative.



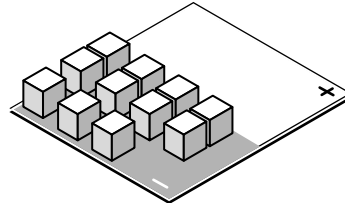
**Step 2.**

Model the second integer on the mat.



**Step 3.**

Read the mat.  
 $-11$



**Step 4.**

Record.  
 $-8 + (-3) = -11$

**Try It**

1. What would change in the example if the numbers being added were positive?

\_\_\_\_\_

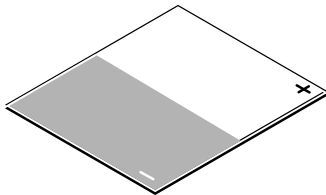
2. Explain how to find the sum of  $-4 + (-6)$ .

\_\_\_\_\_

**Practice**

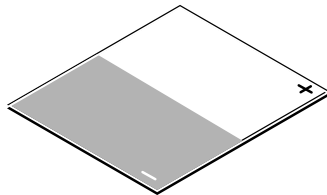
Draw blocks to show the addition. Write the sum.

3.



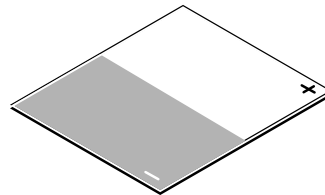
$7 + 2 = \underline{\quad}$

4.



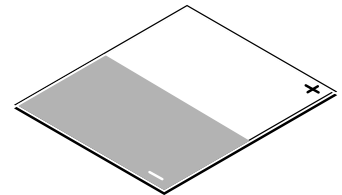
$-5 + (-3) = \underline{\quad}$

5.



$-2 + (-4) = \underline{\quad}$

6.



$5 + 9 = \underline{\quad}$

Find each sum.

7.  $-5 + (-6) = \underline{\quad}$

8.  $3 + 2 = \underline{\quad}$

9.  $-3 + (-8) = \underline{\quad}$

10.  $5 + 4 = \underline{\quad}$

11.  $-5 + (-2) = \underline{\quad}$

12.  $7 + 4 = \underline{\quad}$

13.  $-2 + (-9) = \underline{\quad}$

14.  $6 + 7 = \underline{\quad}$

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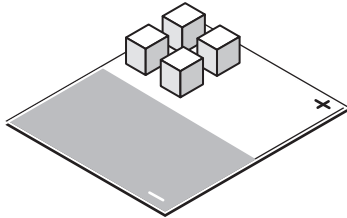
## Lesson 2-3: Finding the Opposite of an Integer

Recognizing the opposite of an integer is the first step in learning to solve algebraic problems using Algeblocks.

**Example:** What is the opposite of 4?

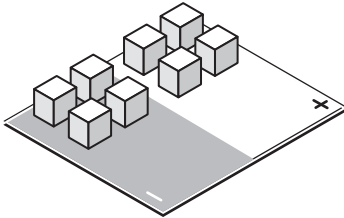
**Step 1.**

Model the integer using Algeblocks.



**Step 2.**

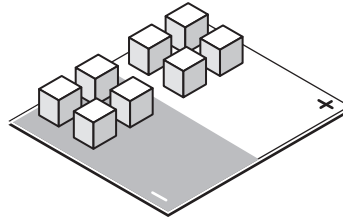
Place the same number of blocks on the other side of the mat.



**Step 3.**

Read the integers you have modeled.

4 and -4



**Step 4.**

Record the integer and its opposite.

4

-4

**Try It**

1. How do you know how many blocks to use to model the opposite of an integer?

\_\_\_\_\_

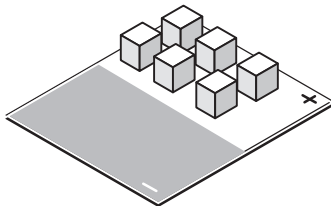
2. If the given integer is negative, what sign would its opposite have? \_\_\_\_\_

\_\_\_\_\_

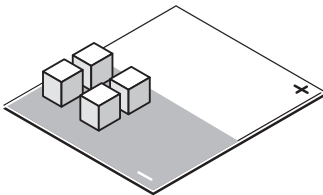
**Practice**

Show the opposite of each given integer.

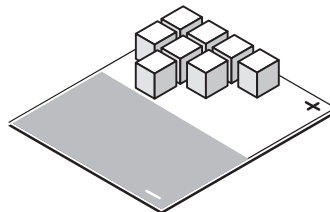
3.



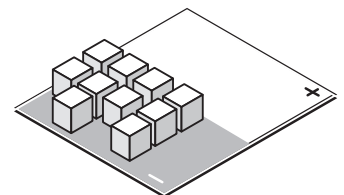
4.



5.



6.



Complete each sentence.

7. The opposite of -7 is \_\_\_\_\_.

8. The opposite of 3 is \_\_\_\_\_.

9. The opposite of 0 is \_\_\_\_\_.

10. The opposite of -12 is \_\_\_\_\_.

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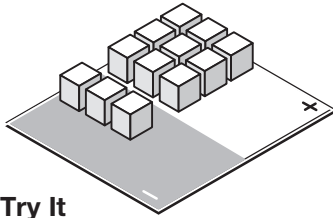
## Lesson 2-4: Making Zero Pairs on the Basic Mat

Remember that each member of a pair of numbers such as  $-3$  and  $3$  is called the opposite of the other number. The pairs are also called “zero pairs” because their sum is zero.

**Example:** In one game, you scored 9 points. Then, you made mistakes that lost 3 points. What is your final score?

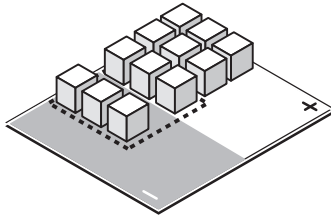
**Step 1.**

Model the problem on the mat. Use the positive side for points earned and the negative side for points lost.



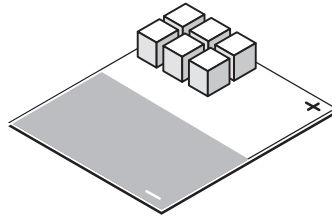
**Step 2.**

Identify and remove the zero pairs. Remember the zero pairs will have the same number of squares on each side.



**Step 3.**

Read the mat.  
score: 6



**Step 4**

Record.  
 $9 - 3 = 6$

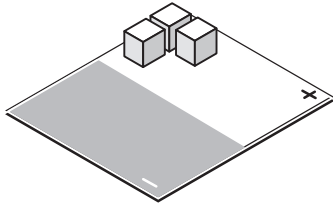
**Try It**

1. What is the opposite of  $-7$ ? \_\_\_\_\_  
\_\_\_\_\_
2. What is true about every zero pair? \_\_\_\_\_  
\_\_\_\_\_

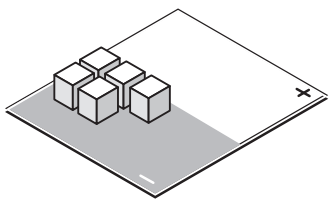
**Practice**

Add squares to make zero pairs on each mat.

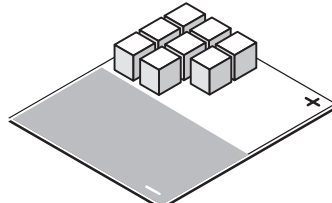
3.



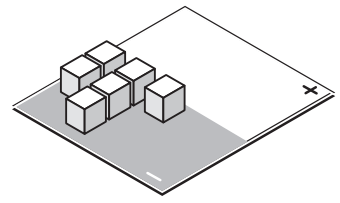
4.



5.

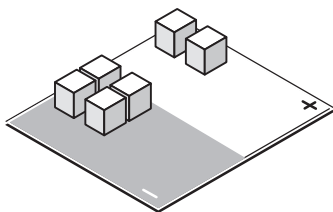


6.

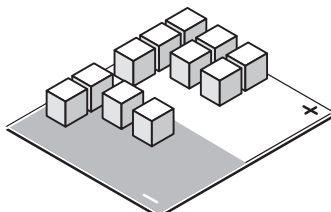


Circle the zero pairs on each mat.

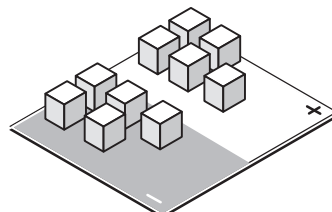
7.



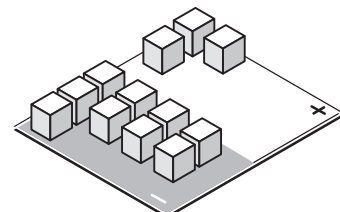
8.



9.



10.



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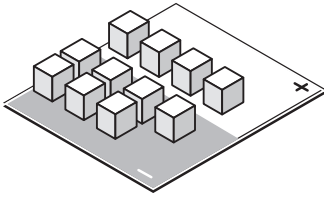
## Lesson 2-5: Using Zero Pairs to Add a Positive Integer

Use what you know about modeling integers and zero pairs to add a positive integer.

**Example:** Add  $-7 + 4$ .

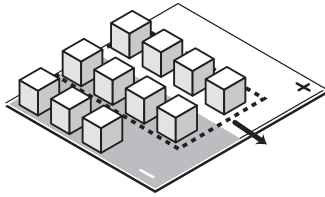
**Step 1.**

Model both integers on the mat.



**Step 2.**

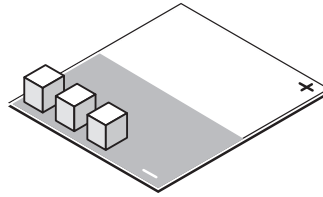
Make zero pairs and take them off the mat.



**Step 3.**

Read the mat.

$-3$



**Step 4.**

Record.

$-7 + 4 = -3$

**Try It**

1. What two opposite numbers make up the zero pairs removed from the mat in the example?

\_\_\_\_\_

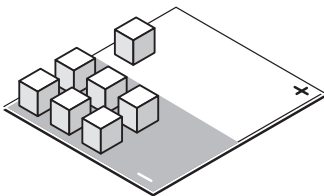
2. Write a rule for how many blocks to take off the mat when you remove zero pairs.

\_\_\_\_\_

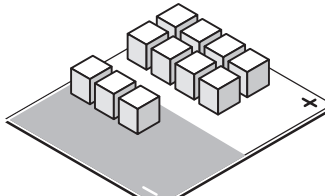
**Practice**

Add. Show the zero pairs on each mat.

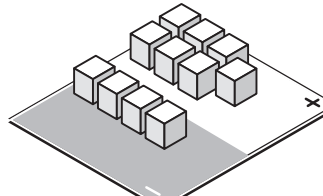
3.  $-6 + 1 =$  \_\_\_\_\_



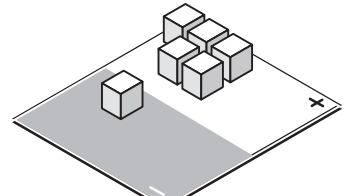
4.  $-3 + 8 =$  \_\_\_\_\_



5.  $-4 + 7 =$  \_\_\_\_\_



6.  $-1 + 5 =$  \_\_\_\_\_



Use Algeblocks to add.

7.  $-5 + 8 =$  \_\_\_\_\_

8.  $-9 + 2 =$  \_\_\_\_\_

9.  $-2 + 6 =$  \_\_\_\_\_

10.  $-3 + 9 =$  \_\_\_\_\_

11.  $-4 + 1 =$  \_\_\_\_\_

12.  $-6 + 5 =$  \_\_\_\_\_

13.  $-7 + 3 =$  \_\_\_\_\_

14.  $-1 + 8 =$  \_\_\_\_\_

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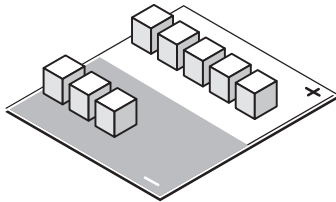
## Lesson 2-6: Using Zero Pairs to Add a Negative Integer

Use what you know about modeling integers and zero pairs to add a negative integer.

**Example:** Add  $5 + (-3)$

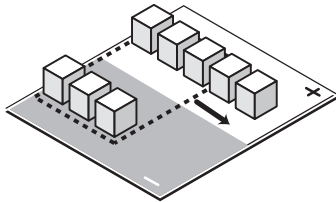
**Step 1.**

Model both integers on the mat.



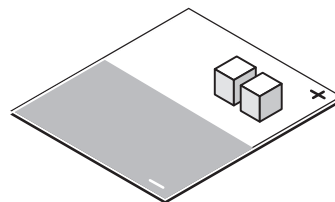
**Step 2.**

Make zero pairs and take them off the mat.



**Step 3.**

Read the mat.  
2



**Step 4.**

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

**Try It**

1. What two opposite numbers make up the zero pairs removed from the mat in the example?

\_\_\_\_\_

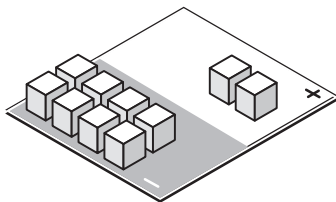
2. Explain how you can tell what sign a sum will have before you add.

\_\_\_\_\_

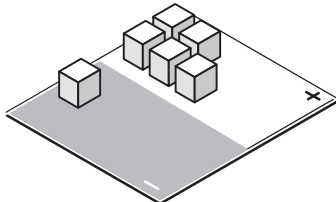
**Practice**

Add. Show the zero pairs on each mat.

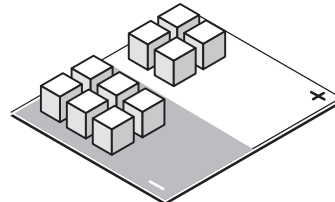
3.  $2 + (-8) =$  \_\_\_\_\_



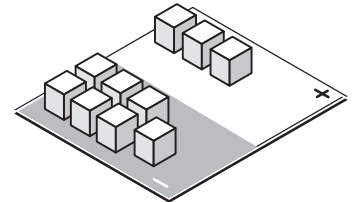
4.  $5 + (-1) =$  \_\_\_\_\_



5.  $4 + (-6) =$  \_\_\_\_\_



6.  $3 + (-7) =$  \_\_\_\_\_



Use Algeblocks to add.

7.  $4 + (-6) =$  \_\_\_\_\_

8.  $1 + (-8) =$  \_\_\_\_\_

9.  $6 + (-8) =$  \_\_\_\_\_

10.  $7 + (-1) =$  \_\_\_\_\_

11.  $8 + (-4) =$  \_\_\_\_\_

12.  $5 + (-5) =$  \_\_\_\_\_

13.  $3 + (-2) =$  \_\_\_\_\_

14.  $9 + (-4) =$  \_\_\_\_\_

15.  $3 + (-7) =$  \_\_\_\_\_

16.  $5 + (-8) =$  \_\_\_\_\_

17.  $4 + (-1) =$  \_\_\_\_\_

18.  $8 + (0) =$  \_\_\_\_\_