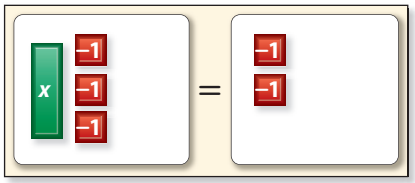
Hands-On Activity 2

Tools

Solve $x - 3 = -2$ using algebra tiles.

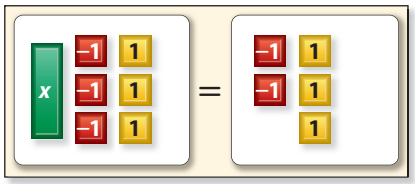
Remember a 1-tile and −1 tile combine to make a *zero pair*. You can add or subtract zero pairs from either side of an equation without changing its value.

Step 1 Model the equation.



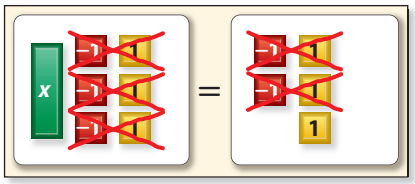
$x - 3 = -2$

Step 2 Add three 1-tiles to the left side of the mat and _____ 1-tiles to the right side of the mat to form zero pairs on each side of the mat.



$x - 3 + 3 = -2 + 3$

Step 3 Remove all of the zero pairs from each side. There is _____ 1-tile on the right side of the mat.



$x = 1$

Therefore, $x =$ ☐.

Check ☐ $- 3 = -2$ ✓

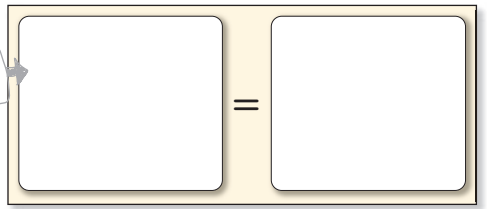
Investigate

Collaborate

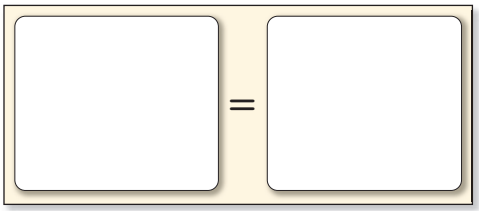
Use Math Tools **Work with a partner to solve each equation. Use algebra tiles. Show your work using drawings.**

5. $x + 4 = 4$ $x =$ _____

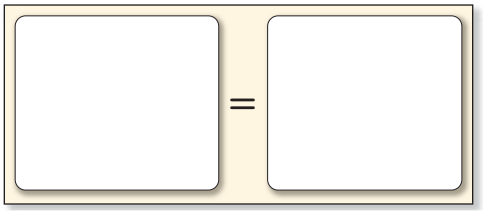
Show your work.



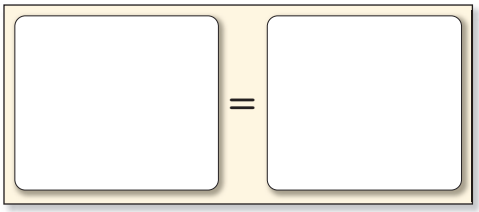
6. $-2 = x + 1$ $x =$ _____



7. $x - 1 = -3$ $x =$ _____



8. $4 = x - 2$ $x =$ _____



Analyze and Reflect

Collaborate

Work with a partner to complete the table. The first one is done for you.

	Equation	Related Equation
	$x + 3 = 4$	$x = 4 - 3$
9.	$6 + x = 10$	
10.	$x + 3 = -1$	
11.	$6 + x = -7$	

Create

On Your Own

12. **Construct an Argument** Write a rule that you can use to solve addition equations without using models or a drawing.

_____

_____

13. Inquiry HOW can bar diagrams or algebra tiles help you solve an equation?

_____

_____