

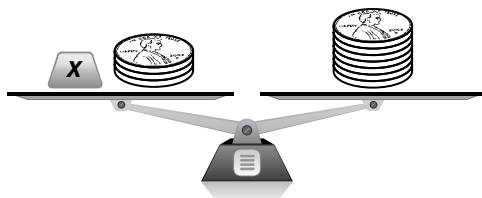


CCSS: 6.EE.A.2: Write, read, and evaluate expressions in which letters stand for numbers.

## Launch

This scale is balanced. How could you keep the scale balanced if the left side changes to Box X and 5 pennies?

MP3, MP5



**Reflect** How can you change the sides of a balanced scale and keep it balanced?

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# Got It?

## PART 1 Got It

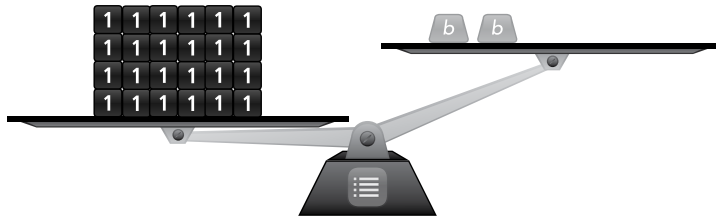
- ▶ The scale balances with  $4x$  on one side and 20 on the other. What must you do to the scale below to make it balanced?



# Got It?

## PART 2 Got It

- The scale balanced with 24 on the left and  $6b$  on the right. What must you do to rebalance the scale?



## PART 3 Got It

- The solution of  $17 + t = 25$  is  $t = 8$ . Which equation is equivalent to  $17 + t = 25$ ?
- I.  $17 + t = 25 + t$       II.  $3 + 17 + t = 3 + 25$       III.  $17 + t + t = 25 + 25$

Discuss with a classmate

Choose one of the equations that you did NOT select as equivalent.  
Explain to your classmate what part(s) of that equation failed to make it equivalent to the original equation  $17 + t = 25$ .

## Close and Check



### Focus Question

© MP1, MP3, MP8

How is it possible for two different equations to describe the same situation?  
What does it mean for two equations to be equivalent?

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### Do you know **HOW**?

1. A scale is balanced with  $3a$  on one side and 9 on the other. What must you do to keep the scale balanced?

$$3a - 5 = 9 - \boxed{\phantom{00}}$$

2. Use the information on the scale to complete the equivalent equation.



$$\boxed{\phantom{00}} b = 77$$

3. Which equation is equivalent to  $5c + 2 = 12$ ?

- I.  $5c + 2 = 12 + 2$   
II.  $5c + 2 - c = 12 - c$   
III.  $2(5c + 2) = 2(12)$

- A. I and II  
B. I and III  
C. II and III  
D. all of them



### Do you **UNDERSTAND**?

4. **Reasoning** Why is it important to do the same thing to both sides when balancing an equation?

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5. **Error Analysis** Describe and correct the error in writing an equivalent equation.

$$\begin{aligned} r + 6 &= 16 \\ r + 6 - 5 &= 16 + 5 \end{aligned}$$

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