Name_____ Date _____

1.3 Solving Equations with Variables on Both Sides

For use with Activity 1.3

Essential Question How can you solve an equation that has variables on both sides?

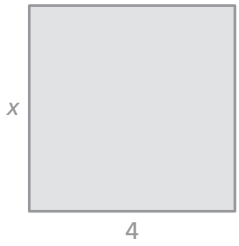
1 ACTIVITY: Perimeter and Area

Work with a partner. Each figure has the unusual property that the value of its perimeter (in feet) is equal to the value of its area (in square feet).

- **Write an equation (value of perimeter = value of area) for each figure.**
- **Solve each equation for x.**
- **Use the value of x to find the perimeter and area of each figure.**
- **Check your solution by comparing the value of the perimeter and the value of the area of each figure.**

a.

b.



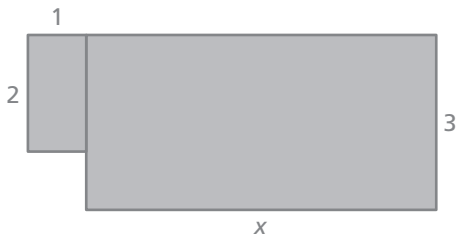
c.

d.

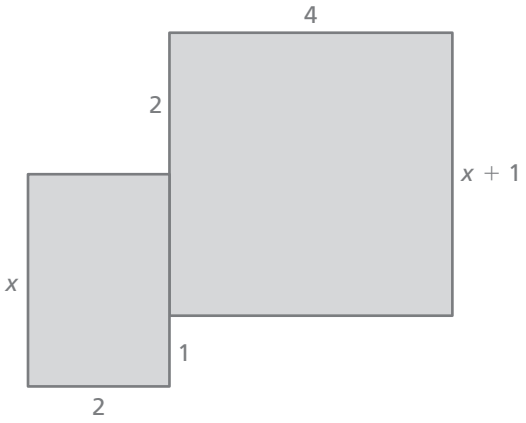
Name _____ Date _____

1.3 Solving Equations with Variables on Both Sides (continued)

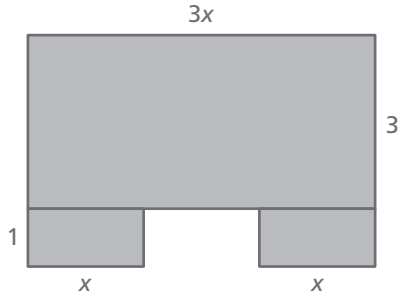
e.



f.



g.



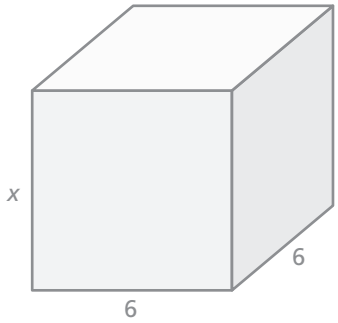
2 ACTIVITY: Surface Area and Volume

Work with a partner. Each solid on the next page has the unusual property that the value of its surface area (in square inches) is equal to the value of its volume (in cubic inches).

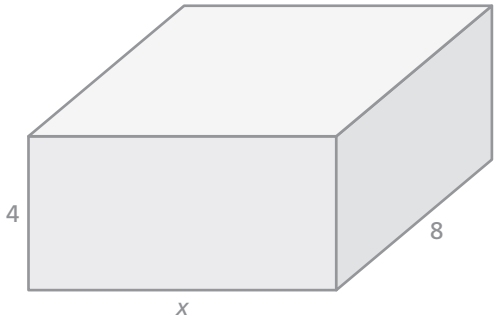
- **Write an equation (value of surface area = value of volume) for each figure.**
- **Solve each equation for x.**
- **Use the value of x to find the surface area and volume of each figure.**
- **Check your solution by comparing the value of the surface area and the value of the volume of each figure.**

1.3 Solving Equations with Variables on Both Sides (continued)

a.

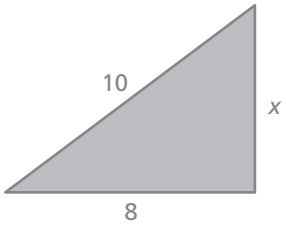


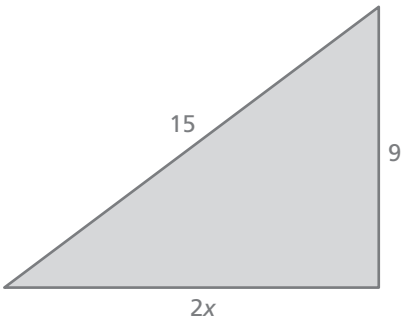
b.



3 ACTIVITY: Puzzle

Work with a partner. The two triangles are similar. The perimeter of the larger triangle is 150% of the perimeter of the smaller triangle. Find the dimensions of each triangle.





What Is Your Answer?

4. **IN YOUR OWN WORDS** How can you solve an equation that has variables on both sides? Write an equation that has variables on both sides. Solve the equation.