



Name _____ Date _____



Skills Maintenance

Balanced Equations

Activity 1

Show that each equation is balanced by simplifying the equations on both sides of the equal sign.

1.
$$\frac{45 + 45}{} = \frac{10 \cdot 3^2}{}$$

Show your work here:

2.
$$\frac{72 \div 8 + 6}{} = \frac{(2 + 3) \cdot 3}{}$$

Show your work here:

3.
$$\frac{102 - 77}{} = \frac{3^2 + 4^2}{}$$

Show your work here:

Name _____ Date _____



Apply Skills

Balancing an Equation

Activity 1

Write an expression on the blank side of the scale that is equal to the other equation. Your expression should include one operation or more and more than one term. Then show that the two sides are balanced.

Model

$$4 + 5 =$$

Begin by solving the left-hand side. $4 + 5 = 9$.
Then think of a different expression for representing 9.
Example: $9 = 109 - 100$.

Answer $4 + 5 = 109 - 100$

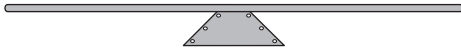
$$4 + 5 = 109 - 100$$

Prove the sides are equal by simplifying.
 $4 + 5 = 9$ and $109 - 100 = 9$
 $9 = 9$ The equation is balanced.

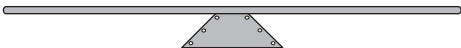
1. $2^2 + 45 =$

- Simplify the left-hand side. _____
- Think of a different expression for representing the same thing and fill it in above.
- Prove the equation is balanced by simplifying both sides. Show your work here.

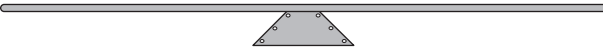
Name _____ Date _____

2.
$$= 5^2 + 6^2 - 11$$


- (a) Simplify the right-hand side. _____
- (b) Think of a different expression for representing the same thing and fill it in above.
- (c) Prove the equation is balanced by simplifying both sides. Show your work here.

3.
$$5(8 + 2) =$$


- (a) Simplify the left-hand side. _____
- (b) Think of a different expression for representing the same thing and fill it in above.
- (c) Prove the equation is balanced by simplifying both sides. Show your work here.

4.
$$= 900 \div (3 \cdot 10) + 6$$


- (a) Simplify the right-hand side. _____
- (b) Think of a different expression for representing the same thing and fill it in above.
- (c) Prove the equation is balanced by simplifying both sides. Show your work here.

Name _____ Date _____

Problem-Solving Activity Bisecting Angles

Use what you learned about creating a perpendicular line. Then use just a ruler or straight edge and a compass to construct each angle.

1. An angle that measures 45°
2. An angle that measures 135°



3. An angle that measures 225°
4. An angle that measures 315°



 **Reinforce Understanding**
Use the *mBook Study Guide* to review lesson concepts.