

Balance—

Solving for Unknowns, Part Three

Name: _____

You will use a scale to find the unknown numerical values of shapes.

EXPLORE


1. Open **Balance--Solving for Unknowns Part Three.gsp**.

Go to page “Puzzle B.”

Work with a partner. Follow these steps for each puzzle:


- Drag one or more shapes from both sides of the scale to keep it balanced.
- Write an equation that matches your balance model. Write the equation using only shapes. Then write another equation, substituting the values you know for the shapes.
- Find the unknown value of the remaining shape.
- Press the *Show [shape]* button to check your answer.

2. Write two equations to represent your scale. What is the value of the circle?

Puzzle B	
Shape Equation	
Value Equation	
Value of Circle	 =


Describe the strategy you used to find the value of the circle.

3. Go to page “Puzzle C.” Write two equations to represent your scale. What is the value of the heart?

Puzzle C	
Shape Equation	
Value Equation	
Value of Heart	 =


Describe the strategy you used to find the value of the heart.

4. Go to page “Puzzle D.” Write two equations to represent your scale. What is the value of the triangle?

Puzzle D	
Shape Equation	
Value Equation	
Value of Triangle	 =


Describe the strategy you used to find the value of the triangle.

5. Go to page “Puzzle E.” Write two equations to represent your scale. What is the value of the circle?

Puzzle E	
Shape Equation	
Value Equation	
Value of Circle	 =

Describe the strategy you used to find the value of the circle.

6. Go to page “Puzzle F.” Write two equations to represent your scale. What is the value of the square?

Puzzle F	
Shape Equation	
Value Equation	
Value of Square	 =

Describe the strategy you used to find the value of the square.

7. Go to page “Make Your Own.” Use these steps to make your own puzzle.

- Decide which shape will have an unknown value.

For example: The value of the star will be unknown.

- Create an equation that includes the shape with the unknown value. Drag shapes onto the balance scale to match your equation.

For example: star + circle = triangle

- Assign values to the shapes to make the equation true and enter these values into the boxes.

For example: $3 + 2 = 5$, so star = 3, circle = 2, triangle = 5

- Hide the value of the shape whose value you want to be unknown.

For example: Press Hide Star since the value of the star is unknown.

- Drag more shapes onto the left side of the scale. Then, drag the same shapes onto the right side of the scale.

For example: Drag 2 hearts onto the left side and 2 hearts onto the right side.

Have your partner solve your puzzle. Then switch roles and have your partner create a puzzle for you.

Name: _____'s Puzzle	
Shape Equation	
Value Equation	
Value of Unknown	