Equations with Unknowns

Let's represent addition and subtraction with number lines and with equations using a ? for the unknown.

Warm-up

True or False: Making Tens

Decide if each statement is true or false. Be prepared to explain your reasoning.

- $40 = 10 + 27 + 3$

- $47 = 20 + 7 + 3 + 10$

- $60 = 3 + 47 + 10$

Activity 1

Number Line Riddles

Solve each riddle to find the mystery number.

For each riddle:

- Write an equation that represents the riddle. Write a ? for the unknown.
- Represent the equation on the number line. Write the mystery number.

1. I started at 15 and jumped 17 to the right. Where did I end?

   Equation: _____

   Mystery number: _____

2. I started at a number and jumped 20 to the left. I ended at 33. Where did I start?

   Equation: _____

   Mystery number: _____

3. I started at 42 and ended at 80. How far did I jump?

   Equation: _____

   Mystery number: _____

4. I started at 76 and jumped 27 to the left. Where did I end?

   Equation: _____

   Mystery number: _____

5. I started at a number and jumped 19 to the right. I ended at 67. Where did I start?

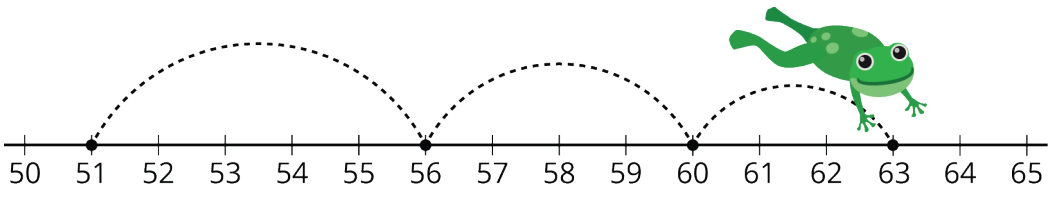
   Equation: _____

   Mystery number: _____

6. I started at 92 and ended at 33. How far did I jump?

   Equation: _____

   Mystery number: _____



Activity 2

Make the Equations True

Find the number that makes each equation true.

Show your thinking using a number line.

1. $? - 48 = 19$

2. $86 - ? = 39$

3. $? + 57 = 72$

4. $73 + ? = 91$