

## **Lesson 12: Equations with Unknowns**

• Let's represent equations with 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.

$$\bullet$$
 40 = 10 + 27 + 3

$$\bullet$$
 47 = 20 + 7 + 3 + 10

$$\bullet$$
 60 = 3 + 47 + 10



## 12.1: Number Line Riddles

Solve riddles to find the mystery number.

For each riddle:

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

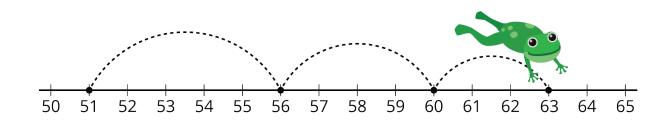
Equation: \_\_\_\_\_

Mystery number: \_\_\_\_\_

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

Equation: \_\_\_\_\_

Mystery number: \_\_\_\_\_





## 12.2: Make the Equations True

Find the number that makes each equation true.

Show your thinking on the number line.

$$1.? - 48 = 19$$

$$2.86 - ? = 39$$

$$3.? + 57 = 72$$

$$4.73 + ? = 91$$