Unit 3, Lesson 19

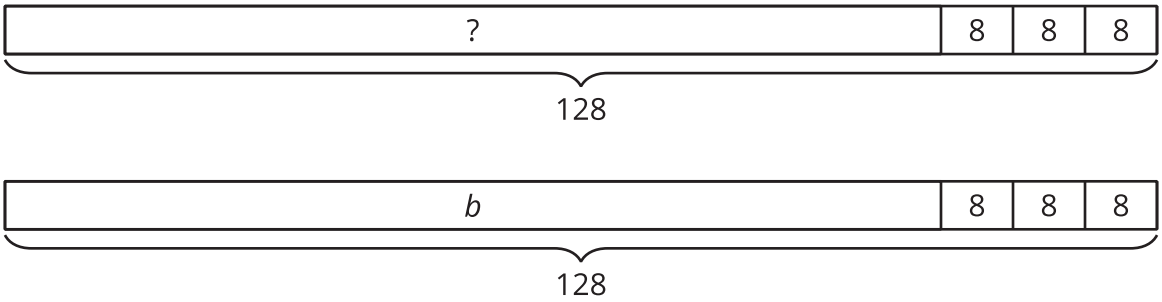
Situations and Equations

Let's represent and solve problems.

Warm-up

Notice and Wonder: The Unknown

What do you notice? What do you wonder?



Activity 1

Mai's Beads

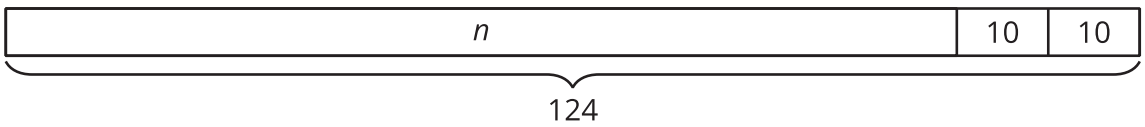
In this problem, each situation has an unknown quantity. In the diagrams and in the equations, each unknown quantity is represented by the letter *n*.

Part A

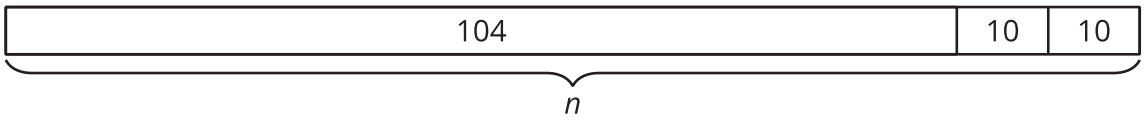
Match each diagram with a situation. Be ready to explain your reasoning.

- Situation 1: Mai had 104 beads. She buys 2 packs of beads. Now she has 124 beads. How many beads were in each pack?
- Situation 2: Mai had some beads. She buys 2 packs of beads. Each pack has 10 beads in it. Now she has 124 beads. How many beads did Mai have before she bought the packs?
- Situation 3: Mai had 104 beads. She buys 2 packs of beads. Each pack has 10 beads in it. How many beads does Mai have now?

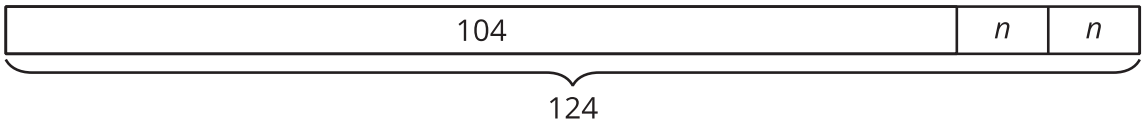
A



B



C



Part B

Match each equation with a situation in Part A.

1. $104 + 2 \times 10 = n$
2. $104 + (2 \times n) = 124$
3. $n + 10 + 10 = 124$

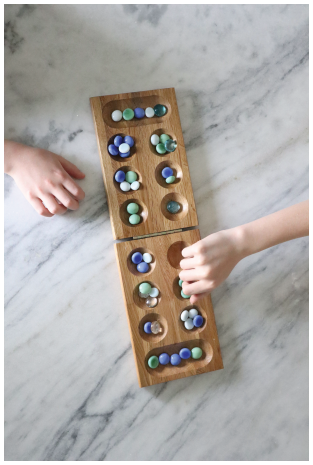
Activity 2

Represent, Solve, Explain

Kiran is setting up a game of mancala (mahn-KAH-lah). He has a jar of 122 stones.

From the jar, he takes 3 stones to put in each of the 6 pits on his side of the board.

How many stones are in the jar now?



1. Write an equation to represent the situation. Use a letter for the unknown quantity.

2. Solve the problem. Explain or show your reasoning.

3. Explain how you know your answer makes sense.