Name: _____ PS

Skill Set 11: Before and After

This heuristic skill can be used to solve problems with two scenarios. By placing data into before-and-after diagrams or mathematical representations and then making a comparison, you will be able to solve the problems easily.

Example:

Carla and Zach had a total of \$216. After Carla's mom gave her another \$51 and Zach spent $\frac{1}{2}$ of his money, both kids had the same amount of money. How much money did each of them have to begin with?

Think

- Before: Carla + Zach → \$216; After: Carla + \$51 = $\frac{1}{2}$ × Zach
- Draw before-and-after models based on the information given.
- Solve by using the unitary method.

Solve

3 units → \$216 + \$51 = \$267

1 unit → \$267 ÷ 3 = \$89

Zach → 2 units → \$89 × 2 = \$178

Carla → \$89 – \$51 = \$38

Answer **Carla had \$38**, and **Zach had \$178** to begin with.

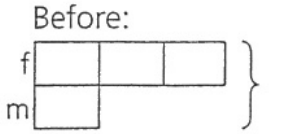
Give it a try!

A club had 352 members. Of those members, 75% were female, and the rest were male. Later in the year, some female members resigned, and the number of female members was then $\frac{3}{7}$ the total number of members in the club. How many female members resigned?

Think

Solve by using the unitary method.

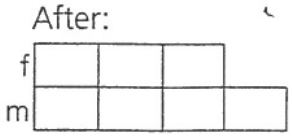
Solve



Before: _____ units → _____

male (1 unit) → _____ ÷ _____ = _____

female (3 units) → _____ × _____ = _____



After: male (4 units) → _____

1 unit → _____ ÷ _____ = _____

female (3 units) → _____ × _____ = _____

_____ – _____ = _____

Answer _____ **female members** resigned.

(Answer: 198)

Practice: Before and After

1. Wynona is 39 years old. Her son is 5 years old. In how many years will Wynona be 3 times as old as her son?

Think

Solve

Answer

2. Mrs. Taylor bought a total of 350 red and green apples. After she sold $\frac{1}{2}$ of the red apples and bought 25 more green apples, she had as many red apples as green apples. How many of each type of apple did Mrs. Taylor buy to begin with?

Think

Solve

Answer