

# Lesson 17: More Perimeter Problems

- Let's solve problems about the perimeter of various shapes.

## Warm-up: True or False: Fractions and Whole Numbers

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

- $\frac{8}{12} + \frac{3}{12} + \frac{9}{12} + \frac{4}{12} = 2$
- $\frac{20}{4} + \frac{10}{4} + \frac{6}{4} = 8$
- $2 = \frac{59}{100} + \frac{41}{100} + \frac{89}{100} + \frac{11}{100}$
- $2 = \frac{3}{8} + \frac{3}{8} + \frac{12}{8}$



## 17.2: Missing Measurements

Your teacher has posted six quadrilaterals around the room. Each one has a missing side length or a missing perimeter.

1. Choose two diagrams—one with a missing length and another with a missing perimeter. Make sure that all six shapes will be visited by at least one person in your group.

Find the missing values. Show your reasoning and remember to include the units.

2. Discuss your responses with your group until everyone agrees on the missing measurements for all six figures.

3. Answer one of the following questions. Explain or show your reasoning.

- a. The perimeter of B is how many times the perimeter of D?

- b. The perimeter of one figure is 1,000 times that of another figure. Which are the two figures?

- c. The perimeter of F is how many times the perimeter of B?

## Section Summary

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In this section, we solved problems and puzzles by converting units of measurement—gallons, quarts, cups, pounds, ounces, yards, feet, and inches—and by comparing measurements in different units. We saw that the problems could be solved in different ways.

For example, if Priya threw a frisbee 16 yards and this is 4 times as far as the distance Jada threw in feet, how far did Jada throw the frisbee?

- One way to solve this problem is by finding  $16 \div 4$  to find Jada's throw distance in yards ( $16 \div 4 = 4$ ) and then multiplying the result to convert the yards to feet ( $4 \times 3 = 12$ , so 4 yards is 12 feet).
- Another way is to first convert the 16 yards to feet ( $16 \times 3 = 48$ , so 16 yards is 48 feet) and then divide the result by 4 to find Jada's throw distance ( $48 \div 4 = 12$ ).

In the last two lessons, we solved multiplication and comparison problems that involve the perimeter of rectangles and some other quadrilaterals.