

Lesson 17: More Perimeter Problems

Standards Alignments

Building On 4.NF.B.3.b
Addressing 4.MD.A.2, 4.MD.A.3, 4.OA.A.2

Teacher-facing Learning Goals

- Solve problems involving perimeter using multiplicative comparison and addition or subtraction of fractions (including mixed numbers)

Student-facing Learning Goals

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

Lesson Purpose

The purpose of this lesson is for students to solve geometric problems using their understanding of length measurements, unit conversion, multiplicative comparison, and addition or subtraction of fractions.

In a previous lesson, students were reminded about the relationship between the side lengths and the perimeter of a rectangle and reasoned multiplicatively to solve problems about those measurements. In this lesson, they continue to do so but in contexts that require them to convert the units and interpret them. Students also consider the perimeter of other quadrilaterals.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 2)

English Learners

- MLR7 (Activity 1)

Instructional Routines

True or False (Warm-up)

Materials to Copy

- Missing Measurements - Large (groups of 12): Activity 2
- Missing Measurements - Small (groups of 4):

Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

As students shared their ideas today, how did you ensure all students' voices were heard? In what ways did you show that all voices are valued and important for collective learning?

Cool-down (to be completed at the end of the lesson)

 5 min

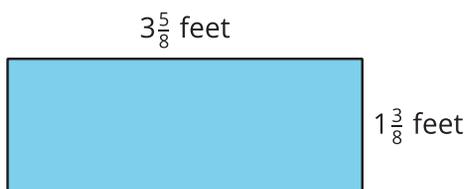
A Rectangle and a Trapezoid

Standards Alignments

Addressing 4.MD.A.2, 4.MD.A.3, 4.OA.A.2

Student-facing Task Statement

1. Find the perimeter of the rectangle. Show your reasoning.



2. A trapezoid has a perimeter of 10 yards.

Compared to the perimeter of the rectangle, how many times as long is the perimeter of the trapezoid? Explain or show your reasoning.

Student Responses

1. 10 feet. Sample reasoning:
 - $3\frac{5}{8} + 1\frac{3}{8} = 5$ and twice that length is 10.

$$\circ \left(2 \times 3\frac{5}{8}\right) + \left(1\frac{5}{8} \times 2\right) = 6\frac{10}{8} + 2\frac{6}{8} = 8\frac{16}{8} = 10$$

2. 3 times. Sample reasoning: One yard is 3 feet, so 10 yards is 10×3 or 30 feet, and 30 is 3 times 10.