Chapter 11

Lesson 10

Stories About Multiplying Fractions

NCTM Standards 1, 2, 6, 7, 10

Solve the story problems. Show how you got your answers by drawing pictures or writing number sentences.

1 Matt's dad agreed to make him a new shelf for his room if he could figure out what fraction of a sheet of plywood he needed. Matt decided that the shelf needed to be three-quarters of its length and one-fifth of its width.

What fraction of the sheet of plywood is the shelf? _____

2 Batoul wanted to fence in an area of her backyard for her new rabbit. She promised her mother that she would only use one-third of the length and one-fourth of the width of the backyard.

What fraction of the whole backyard would be fenced for the rabbit? _____

3 Parisa's brownie recipe makes 4 dozen brownies. She wants to make 2 dozen brownies, and the recipe calls for three-quarters of a cup of oil.

How much oil will she need? _____

4 John had already walked one-third of the half-mile walk to school when he stopped to pat a horse.

How far had he already walked? (Give your answer as a fraction of a mile.) _____

What fraction of a mile does he have left to walk? _____

5 It's three-quarters of a mile from Caitie's home to the school. She was one-third of the way home from school when it started to rain.
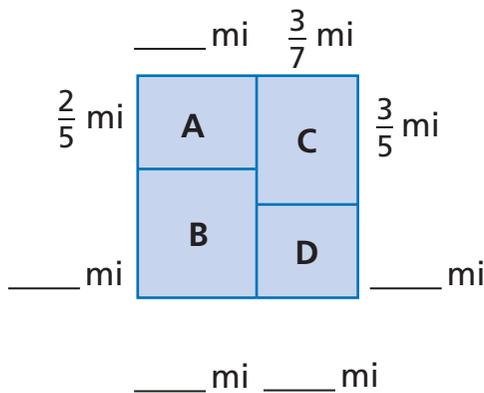
How far had she walked when it started to rain? (Give your answer as a fraction of a mile.) _____

6 A sheet of glass is cut into rectangular panes. Each pane is one-quarter of the length and one-quarter of the width of the original sheet.

What fraction of the sheet of glass is left after cutting out one pane? _____

What fraction of the sheet is left after cutting out four panes? _____

7 The picture shows a 1-mile by 1-mile field divided into four sections for four different crops. Write in the missing dimensions and figure out the area of each section.

_____ mi $\frac{3}{7}$ mi

$\frac{2}{5}$ mi   **A**   **C** $\frac{3}{5}$ mi

B   **D**

_____ mi   _____ mi

_____ mi _____ mi

A = _____

B = _____

C = _____

D = _____

8 **Challenge** A field has an area of 1 square mile. A rectangular section is planted with corn. That section measures two-thirds of a mile along one side.

If the area of the section is one-half a square mile, what is the length of the other side of the section? _____

(HINT: You may want to use different equivalent fractions for one-half.)