Lesson 12: Measure to find the area of rectangles with fractional side lengths.

1. Measure each rectangle to the nearest $\frac{1}{4}$ inch with your ruler, and label the dimensions. Use the area model to find each area.

   a. 
   
   b. 
   
   c. 
   
   d. 

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2. Find the area of rectangles with the following dimensions. Explain your thinking using the area model.

a. \(1 \text{ ft} \times 1 \frac{1}{2} \text{ ft}\)

b. \(1 \frac{1}{2} \text{ yd} \times 1 \frac{1}{2} \text{ yd}\)

c. \(2 \frac{1}{2} \text{ yd} \times 1 \frac{3}{16} \text{ yd}\)
3. Hanley is putting carpet in her house. She wants to carpet her living room, which measures $15 \text{ ft} \times 12 \frac{1}{3} \text{ ft}$. She also wants to carpet her dining room, which is $10 \frac{1}{4} \text{ ft} \times 10 \frac{1}{3} \text{ ft}$. How many square feet of carpet will she need to cover both rooms?

4. Fred cut a $9 \frac{3}{4}$-inch square of construction paper for an art project. He cut a square from the edge of the big rectangle whose sides measured $3 \frac{1}{4}$ inches. (See the picture below.)

   a. What is the area of the smaller square that Fred cut out?

   b. What is the area of the remaining paper?