

M5 L12 - Area of Rectangle

4.4.19

$$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$$

$$\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$$

$$\frac{3}{5} \times \frac{2}{3} = \frac{6}{15} = \frac{2}{5}$$

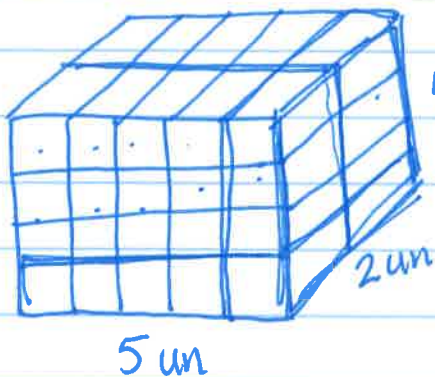
$$\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12} = \frac{1}{2}$$

$$\frac{5}{6} \times \frac{2}{3} = \frac{10}{18} = \frac{5}{9}$$

$$\frac{3}{4} \times \frac{5}{6} = \frac{15}{24} = \frac{5}{8}$$



$$V = 5 \text{ un} \times 4 \text{ un} \times 2 \text{ un}$$

$$V = 40 \text{ un}^3$$

$$40 = 10 \text{ un}^2 \times 4 \text{ un}$$

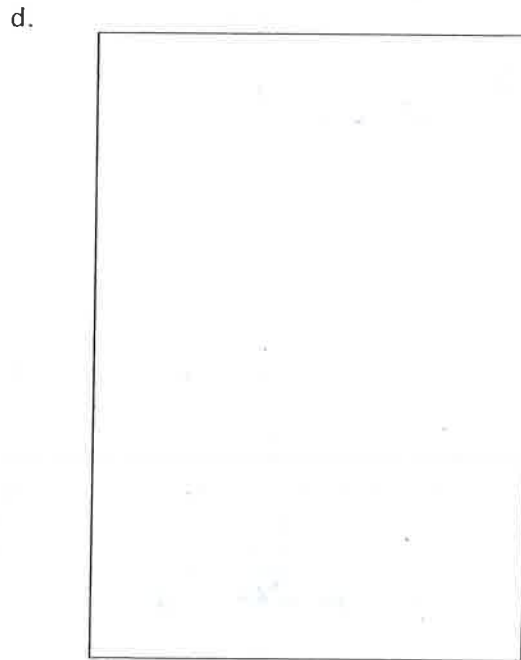
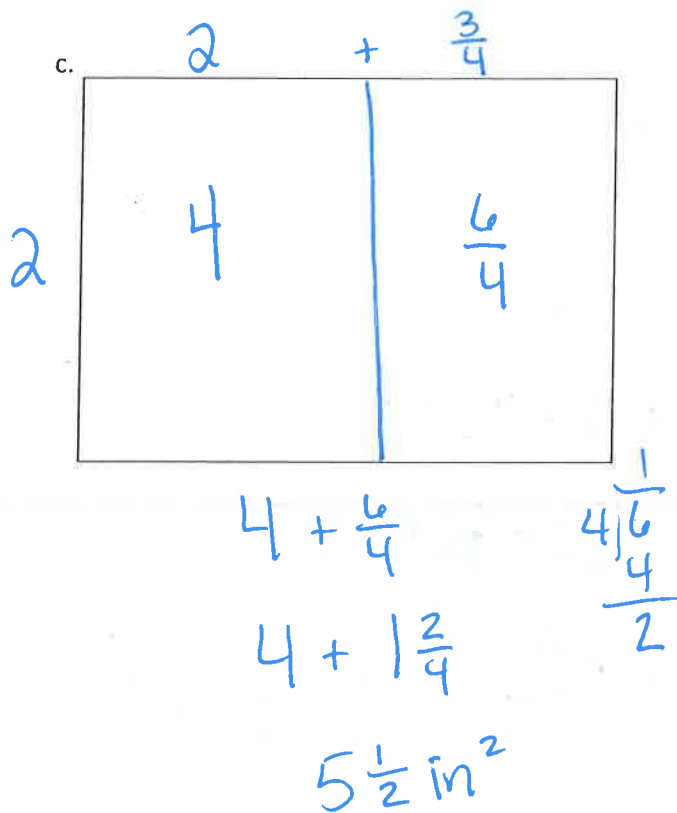
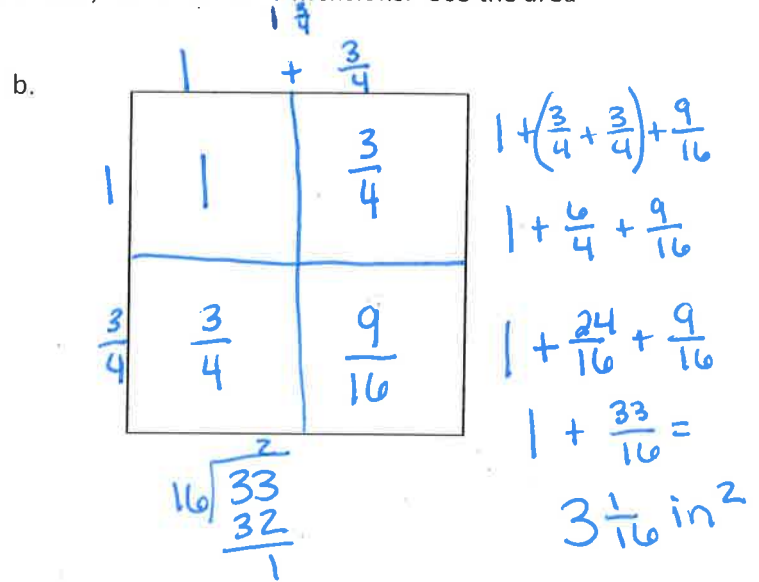
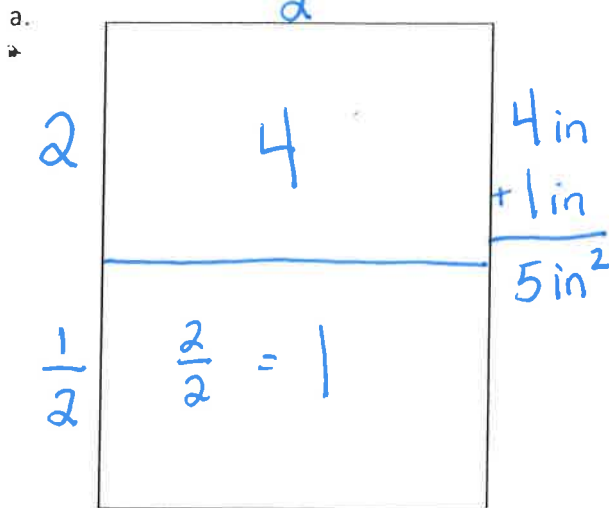
$$40 \text{ un}^3 = 8 \text{ un}^2 \times 5 \text{ un}$$

$$40 \text{ un}^3 = 20 \text{ un}^2 \times 2 \text{ un}$$

Name _____

Date _____

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.



e.

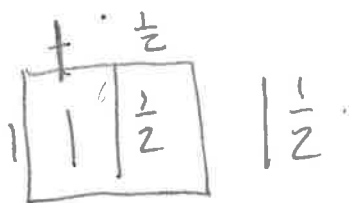


f.



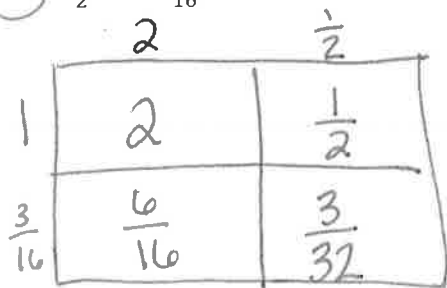
2. Find the area of rectangles with the following dimensions. Explain your thinking using the area model.

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. $2\frac{1}{2} \text{ yd} \times 1\frac{3}{16} \text{ yd}$



$$2 + \frac{1}{2} + \frac{6}{16} + \frac{3}{32}$$

$$2 + \frac{16}{32} + \frac{12}{32} + \frac{3}{32} =$$

$$2 + \frac{31}{32} =$$

$$2\frac{31}{32} \text{ yd}^2$$

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

$$\begin{aligned}
 15 \times 12\frac{1}{3} &= \\
 (15 \times 12) + (15 \times \frac{1}{3}) & \\
 180 + \frac{15}{3} & \\
 180 + 5 & \\
 185 &
 \end{aligned}$$

$$290\frac{11}{12} \text{ ft}^2$$

$$\begin{array}{r}
 10\frac{1}{4} \times 10\frac{1}{3} \\
 \begin{array}{|c|c|c|}
 \hline
 & 10 & \frac{1}{3} \\
 \hline
 10 & 100 & \frac{10}{3} \\
 \hline
 \frac{1}{4} & \frac{10}{4} & \frac{1}{12} \\
 \hline
 \end{array} \\
 105\frac{11}{12}
 \end{array}$$

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?

