

Multiplying and Dividing with Fractions Word Problems

1. Mrs. Smith bought $3\frac{1}{2}$ yards of yellow fabric. She used $\frac{2}{3}$ of the fabric to make a chicken costume. How much fabric did she use?

$$3\frac{1}{2} \text{ yards} = \frac{7}{2} \text{ yards} = \frac{2}{3} \text{ is used.}$$

$$\frac{2}{3} \text{ of } \frac{7}{2} = \frac{2}{3} \cdot \frac{7}{2} = \frac{14}{6} = 2\frac{2}{6} = 2\frac{1}{3}$$

\therefore She used $2\frac{1}{3}$ yards

2. Julie studied for $3\frac{1}{3}$ hours during the 4 days before her last math test. If she studied for the same amount of time each day, how much time did she spend studying each day?

$$3\frac{1}{3} = \frac{10}{3} \text{ during 4 days} \Rightarrow \text{so each day}$$

$$60/12 = 5 \text{ minutes}$$

$$\text{So } 10 \frac{1}{3} = 50 \text{ minutes}$$

\downarrow
200 minutes

$$\frac{10}{3} \text{ h} \text{ --- } 4 \text{ days}$$

$$\times \text{ --- } 1 \text{ days}$$

$$\left(\frac{10}{3} \text{ hours} \right) \div \left(\frac{4}{1} \text{ days} \right) = \frac{10}{12} \text{ hours per day}$$

3. An aquarium holds $6\frac{1}{4}$ gallons of water. The water level dropped to $\frac{4}{5}$ of this amount. How much water should be added to full the aquarium?

$$6\frac{1}{4} \text{ gallons} \cdot \frac{4}{5} = \frac{25}{4} \cdot \frac{4}{5} = \frac{25}{5} = 5 \text{ gallons}$$

$$6\frac{1}{4} \text{ gallons} - 5 \text{ gallons} = 1\frac{1}{4} \text{ gallons left}$$

\therefore 5 gallons need to be added

4. A piece of plywood 24 inches wide is cut into strips $2\frac{1}{2}$ inches wide. How many strips of this width can be cut?

$$24 \div 2\frac{1}{2} = \frac{24}{1} \div \frac{5}{2} = \frac{48}{5}$$

$$= 9.6 \Rightarrow 9\frac{6}{10} = 9\frac{3}{5}$$

9 strips

