

Date: _____

KEY

6.1 Notes: Multiplying a Fraction and a Whole

Multiplying Using Diagrams

Draw 2 diagrams that show $3 \times \frac{3}{4}$

DIAGRAM 2

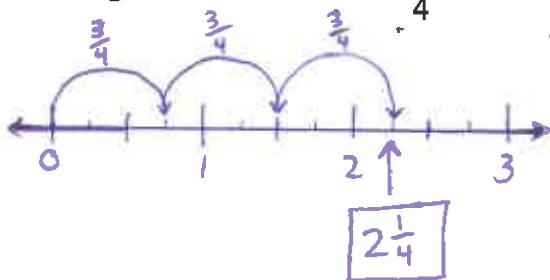
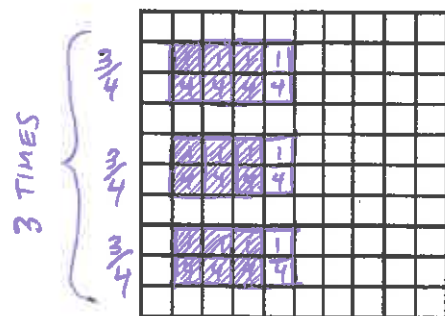


DIAGRAM 1 ↴

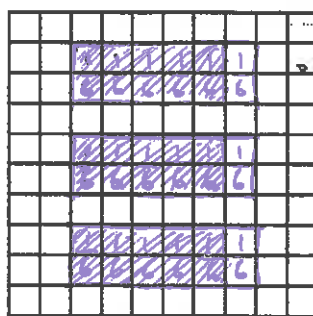


COUNT THE QUARTERS

$$\frac{9}{4}$$

$$\frac{9}{4} \downarrow = 2 \frac{1}{4}$$

Draw a diagram that shows $3 \times \frac{5}{6}$



COUNT THE SIXTHS

$$\frac{15}{6} \Rightarrow 2 \frac{3}{6}$$

$$\downarrow$$

$$\frac{5}{2}$$

$$\Rightarrow 2 \frac{1}{2}$$

Multiplying by Addition

$$a) 3 \times \frac{5}{8} = \frac{5}{8} + \frac{5}{8} + \frac{5}{8} = \frac{15}{8} \Rightarrow 1 \frac{7}{8}$$

$$\text{BY THE NORMAL RULE: } \frac{3}{1} \times \frac{5}{8} = \frac{15}{8} \Rightarrow 1 \frac{7}{8}$$

$$b) \frac{2}{3} \text{ of } 4 = \frac{2}{3} \times 4$$

COMMUTATIVE PROPERTY

$$4 \times \frac{2}{3} = \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{8}{3} \Rightarrow 2 \frac{2}{3}$$

$$\text{BY THE NORMAL RULE: } \frac{2}{3} \times \frac{4}{1} = \frac{8}{3} \Rightarrow 2 \frac{2}{3}$$

Word Problems

Keywords:

TWICE AS MANY $\rightarrow 2x$
THINK! FORTYTIMES AS MANY $\rightarrow 4x$
 $\frac{3}{4}$ AS MANY $\rightarrow \frac{3}{4}x$

a) Charles has 40 hockey cards. Hector has $\frac{3}{4}$ as many pictures as Charles. How many pictures does Hector have?

$$x = \frac{3}{4} \times 40$$

$$= \frac{3}{4} \times \frac{40}{1}$$

CROSS CANCEL

$$= \frac{3}{1} \times \frac{10}{1}$$

$$x = \frac{3}{1} \times \frac{10}{1}$$

$$= \frac{30}{1}$$

$$x = 30$$

b) Penelope has $\frac{2}{3}$ as much money as Katie. Katie has \$24. How much money does Penelope have?

$$x = \frac{2}{3} \times 24$$

$$= \frac{2}{3} \times \frac{24}{1}$$

CROSS CANCEL

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

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

$$x = 16$$



Make up a title for this picture