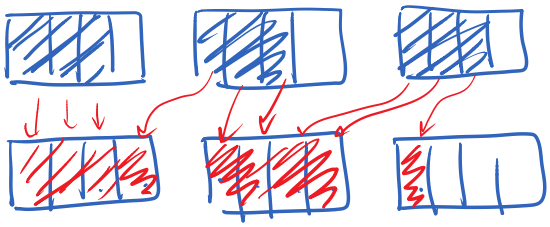
Date:_____

6.1 Notes: Multiplying a Fraction and a Whole

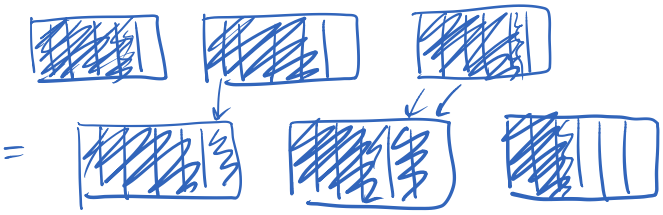
Multiplying Using Diagrams

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



$3 \times \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$

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



$3 \times \frac{5}{6} = \frac{15}{6} = 2\frac{3}{6} = 2\frac{1}{2}$

Multiplying by Addition

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

Improper fraction

$\frac{15}{8}$

Ask - how many 8's in 15?

15 - 8 = 7 ← left over

$1\frac{7}{8}$ mixed fraction (number)

b) $\frac{2}{3}$ of 4

of = multiply // $\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{8}{3} = 2\frac{2}{3}$

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

Word Problems

Keywords:

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

Hector: $\frac{3}{4}$ of what charles has.

Charles: 40

$\frac{3}{4}$ of $40 = \frac{3}{4} \times 40 = \frac{3}{4} \times \frac{40}{1} = \frac{120 \div 4}{4 \div 4} = 30$

Hector has 30 cards.

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

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

$= \frac{48}{3}$

$= \$16$

Penelope has $16.