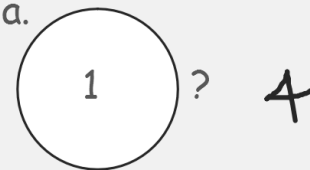
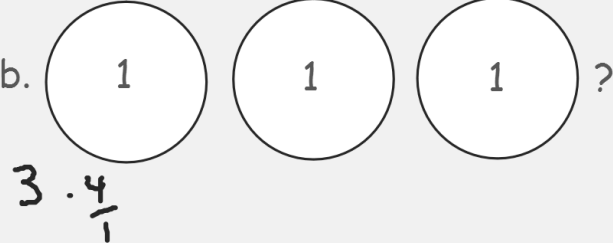


## Lesson 25 : Dividing Fractions

"How many quarters in a dollar?" is the same as asking

How many  $\frac{1}{4}$  are in 1?

a.  ? 4

b.  ?  
 $3 \cdot \frac{4}{1}$

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

$1 \div \frac{1}{4} = 1 \times \frac{4}{1}$

So it appears when we divide fractions, we really...  
 multiply by the reciprocal

Ex A : How many  $\frac{2}{3}$ 's are in 1?  $(1 \div \frac{2}{3})^x = 1 \times \frac{3}{2} = \frac{3}{2} = 1\frac{1}{2}$



$\div \rightarrow \times \text{ rec.}$

How many  $\frac{2}{3}$ 's are in 5?  $(5 \div \frac{2}{3})$

$$\frac{5}{1} \cdot \frac{3}{2} = \frac{15}{2} = 7\frac{1}{2}$$

$$\text{Ex B: } 1 \div \frac{2}{5} = 1 \times \frac{5}{2} = \frac{5}{2} \text{ or } \left(2\frac{1}{2}\right)$$

$$\text{Ex C: } \frac{3}{4} \div \frac{5}{8} = \frac{3}{\cancel{4}^2} \times \frac{8}{5} = \frac{6}{5} = \left(1\frac{1}{5}\right)$$

$$\text{Ex D: } \frac{2}{5} \div \frac{5}{6} = \frac{2}{5} \times \frac{6}{5} = \left(\frac{12}{25}\right)$$

Ex E: Noah walks  $\frac{9}{10}$  of a mile to school. On his way to school he passes a bank which is  $\frac{2}{3}$  of a mile from his home. What fraction of his walk has Noah completed when he reaches the bank?

$$\frac{\text{PART}}{\text{whole}} = \frac{\frac{2}{3}}{\frac{9}{10}} = \frac{2}{3} \div \frac{9}{10} = \frac{2}{3} \times \frac{10}{9} = \left(\frac{20}{27} \text{ mi}\right)$$