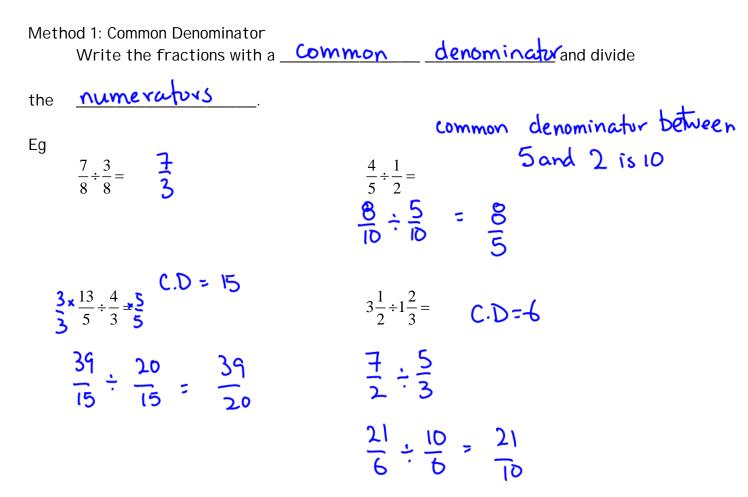
Date:\_

## 6.5 Notes: Dividing Fractions

There are two methods for dividing fractions:



Can  $\frac{2}{8} \times \frac{5}{7}$  be changed into a division question?

yes but it is based on the second method consider:  $\frac{2}{3}$   $\div$ 7 means to split  $\frac{2}{3}$  into  $\div$  groups so each group is  $\frac{1}{7}$  of  $\frac{2}{3}$  $\frac{2}{3}$  $\div$ 7 is the same as  $\frac{2}{3}$ x $\frac{1}{7}$ 54 Fand  $\frac{1}{7}$  are reciprocals.

Method 2: Divide Using a Multiplication  
To divide a fraction, you can also multiply by its reciprocal  
Eg  

$$\frac{7}{8} \cdot \frac{3}{8} = \frac{7}{12} \times \frac{7}{3} = \frac{7}{3}$$
  
 $\frac{13}{8} \cdot \frac{4}{3} = \frac{7}{12} \times \frac{7}{3} = \frac{7}{3}$   
 $\frac{13}{8} \cdot \frac{4}{3} = \frac{7}{12} \times \frac{7}{3} = \frac{7}{2}$   
 $\frac{13}{5} \cdot \frac{4}{3} = \frac{13}{12} \times \frac{7}{3} = \frac{39}{20}$   
 $\frac{4}{5} \cdot \frac{1}{2} = \frac{4}{12} \times \frac{7}{12} = \frac{8}{5}$   
 $\frac{3}{2} \cdot \frac{1}{2} = \frac{7}{12} \div \frac{5}{3}$   
Convert to  
 $\frac{1}{8} \cdot \frac{3}{2} = \frac{7}{12} \div \frac{5}{3}$   
Convert to  
 $\frac{1}{10} \cdot \frac{7}{2} \times \frac{3}{5} = \frac{21}{10}$   
 $\frac{1}{10} - \frac{6}{5} - 5 - \frac{1}{5}$   
 $\frac{1}{6} - \frac{6}{15} - 5 - \frac{1}{5}$   
 $\frac{1}{6} - \frac{6}{15} - 5 - \frac{1}{5}$   
 $\frac{1}{6} - \frac{6}{15} - 5 - \frac{1}{5}$   
Eg. Jorge has a very rare Yu-Gi-Oh card worth  $s\frac{1}{2}$ . This is  $\frac{3}{4}$  of the original price  
he paid for it. What price was it when he bought it?  
 $5\frac{1}{2} = \frac{3}{4} \times$   
 $5\frac{1}{2} = \frac{3}{4} \times$   
 $5\frac{1}{2} = \frac{3}{4} \times$   
 $5\frac{1}{2} = \frac{22}{3} = \frac{7}{5} + \frac{3}{4}$   
 $= \frac{11}{12} \div \frac{3}{4}$   
 $= \frac{11}{12} \div \frac{3}{4}$   
 $= \frac{11}{12} \div \frac{3}{4}$