Unit 3: Operations with Fractions   Name: _____

3.6 Dividing Fractions – Notes

<u>Method 1:</u> Number Line and Common Denominators

a) $\dfrac{4^{\times 2}}{5_{\times 2}} \div \dfrac{3}{10} = \dfrac{8}{10} \div \dfrac{3}{10} = 2\dfrac{2}{3}$

2 out of 3 left.

1   2

$0 \quad \dfrac{1}{10} \quad \dfrac{2}{10} \quad \dfrac{3}{10} \quad \dfrac{4}{10} \quad \dfrac{5}{10} \quad \dfrac{6}{10} \quad \dfrac{7}{10} \quad \dfrac{8}{10}$

b) $\dfrac{5^{\times 2}}{6_{\times 2}} \div \dfrac{1^{\times 3}}{4_{\times 3}} = \dfrac{10}{12} \div \dfrac{3}{12} = 3\dfrac{1}{3}$

1 out of 3 left.

1   2   3

$0 \quad \dfrac{1}{12} \quad \dfrac{2}{12} \quad \dfrac{3}{12} \quad \dfrac{4}{12} \quad \dfrac{5}{12} \quad \dfrac{6}{12} \quad \dfrac{7}{12} \quad \dfrac{8}{12} \quad \dfrac{9}{12} \quad \dfrac{10}{12}$
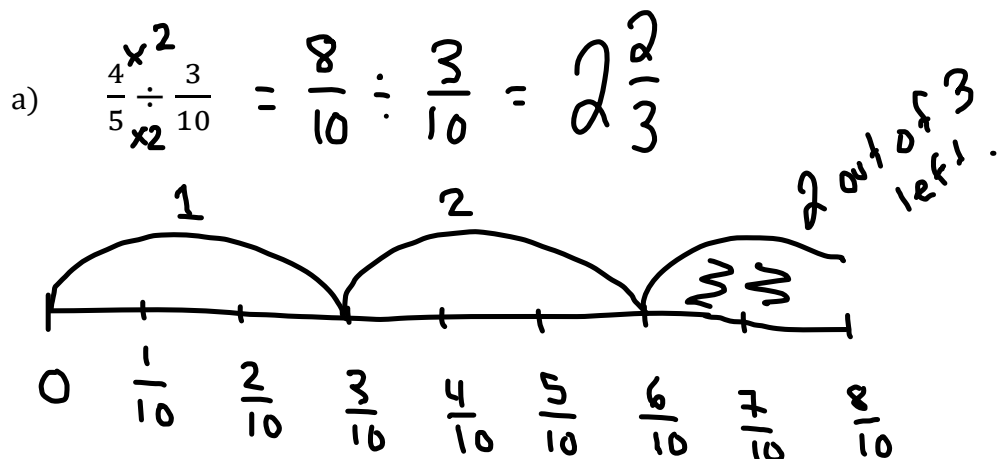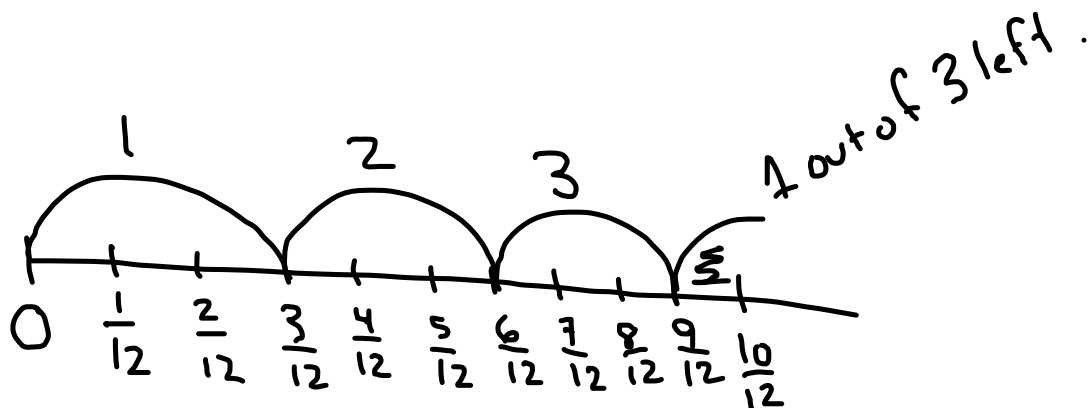
Method 2:   Multiply by the Reciprocal

Keep change change

a) $\dfrac{8}{9} \div \dfrac{4}{3}$

$= \dfrac{8}{9} \times \dfrac{3}{4}$

$\dfrac{8 \div 4}{9 \div 3} \times \dfrac{3 \div 3}{4 \div 4}$

$\dfrac{2}{3} \times \dfrac{1}{1}$

$\dfrac{2}{3}$

$\dfrac{24 \div 2}{36 \div 2}$

$\dfrac{12 \div 6}{18 \div 6}$

$\dfrac{2}{3}$

b) K C C $\dfrac{5}{8} \div \dfrac{1}{2}$

$= \dfrac{5}{8} \times \dfrac{2^{1}}{1}$
  ^{4}

$= \dfrac{5}{4}$

$= 1\dfrac{1}{4}$

c) K C C $\dfrac{12}{7} \div \dfrac{15}{14}$

$\dfrac{12}{7} \times \dfrac{14}{15}$

$\dfrac{8}{5}$

$1\dfrac{3}{5}$

d) K C C $\dfrac{9}{25} \div \dfrac{3}{10}$

$\dfrac{9 \div 3}{25 \div 5} \times \dfrac{10 \div 5}{3 \div 3}$

$\dfrac{3}{5} \times \dfrac{2}{1}$

$\dfrac{6}{5} = 1\dfrac{1}{5}$