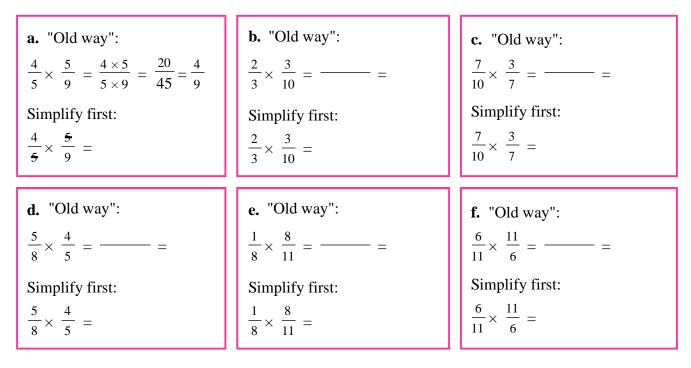
2. Can you figure out how to simplify in these cases? Follow the example



You can cross out the same number above the line and below the line:  $\frac{4}{5} \times \frac{5}{9} = \frac{4}{9}$ 

Why does this work? Compare how it is written using ÷ instead of a fraction line:

 $\frac{4}{5} \times \frac{5}{9} = 4 \div \frac{5}{5} \times \frac{5}{5} \div 9$ . Note how there is again both division by 5 and multiplication by 5.

That is why we can simplify or "cross" those fives out. Similarly,

 $\frac{8}{7} \times \frac{3}{8} = \mathbf{8} \div 7 \times 3 \div \mathbf{8}$ . There is 8 and there is division by 8, so  $\frac{\mathbf{8}}{7} \times \frac{3}{\mathbf{8}} = \frac{3}{7}$ .

| <b>You can simplify a fraction before multiplying.</b><br>In the example here 3/6 is simplified to 1/2 before<br>the multiplication process, which makes it much easier. | $\frac{\frac{1}{2}}{\frac{6}{5}} \times \frac{5}{8} = \frac{5}{16}$ |
|--|---|
| <b>Why does this work?</b> Obviously we can write $\frac{1}{2}$ instead of $\frac{3}{6}$   | $\frac{2}{5}$ since they are equivalent.                            |

3. Simplify before multiplying.

**a.**  $\frac{6}{10} \times \frac{1}{7} =$  **b.**  $\frac{2}{4} \times \frac{5}{15} =$  **c.**  $\frac{8}{32} \times \frac{14}{21} =$  **c.**  $\frac{8}{12} \times \frac{1}{2} =$  **d.**  $\frac{6}{15} \times \frac{6}{9} =$ **f.**  $\frac{27}{45} \times \frac{21}{49} =$ 

## Sample worksheet from www.MathMammoth.com