

SUBJECT: **FRACTIONS 2** – multiplying and dividing with fractions (follow on from the 1st NIFty – FRACTIONS)

KEY-WORDS: Fraction, numerator, denominator

LINK-WORDS: DECIMALS, PERCENTAGES, MIXED NUMBERS

<p>NOTES</p> <p>Once you're used to calculating a fraction of a whole number or amount (by dividing by the denominator and multiplying by the numerator) you are ready to go on to working with two fractions!</p> <p>Now working out a fraction of a fraction is surprisingly easy – you just multiply the numerators (top numbers) together and then multiply the denominators (bottom numbers).</p> <p>It makes sense of course that a half of a half is a quarter (think about cutting up a cake!). But that is just $(1 \times 1)/(2 \times 2) = 1/4$.</p> <p>An extra step will be needed with mixed numbers (these have a whole number part AND a fraction part) such as $2 \frac{1}{2}$, but we'll get to that next time.</p> <p>When DIVIDING a fraction by a fraction the trick is to turn it into a multiplying question (as above) by flipping the second fraction and then doing as above (poshly stated as multiplying by its RECIPROCAL). Yes – it is that easy!</p> <p>In both cases always check in case you can SIMPLIFY the answer.</p>	<p>EXAMPLE</p> <p>Numerator \longrightarrow 3</p> <p>Denominator \longrightarrow 4</p> <p>Calculating three quarters of a half:</p> $\frac{3}{4} \times \frac{1}{2} = \frac{3 \times 1}{4 \times 2}$ $= \frac{3}{8}$ $\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1}$ $= \frac{6}{4}$ <p>Then simplify -</p> $= \frac{3}{2}$ $= 1 \frac{1}{2}$
<p>DO's</p> <p>Simplify where you can.</p> <p>Remember o flip the second fraction for division. You can turn improper(top-heavy) fractions into mixed numbers – more on that on FRACTIONS 3.</p>	<p>DON'Ts</p> <p>Don't bother dividing by 1 – you'll just get the same numbers.</p> <p>Don't show a fraction with decimals in it – this is just not done.</p>

<p>RELEVANT SUBJECTS</p> <p>Every-day calculations eg sharing out quantities, or calculating fractions of amounts in catering.</p>	<p>EXAMPLES and LINKS</p>
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