

Basic

Percentage	Number of parts per 100.	31% means $\frac{31}{100}$
Finding 10%	To find 10%, divide by 10	10% of £36 = $36 \div 10 = £3.60$
Finding 1%	To find 1%, divide by 100	1% of £8 = $8 \div 100 = £0.08$
Percentage Change	$\frac{\text{Difference}}{\text{Original}} \times 100\%$	A games console is bought for £200 and sold for £250. % change = $\frac{50}{200} \times 100 = 25\%$
Fractions to Decimals	Divide the numerator by the denominator using the bus stop method.	$\frac{3}{8} = 3 \div 8 = 0.375$
Decimals to Fractions	Write as a fraction over 10, 100 or 1000 and simplify.	$0.36 = \frac{36}{100} = \frac{9}{25}$
Percentages to Decimals	Divide by 100	$8\% = 8 \div 100 = 0.08$
Decimals to Percentages	Multiply by 100	$0.4 = 0.4 \times 100\% = 40\%$
Fractions to Percentages	Percentage is just a fraction out of 100. Make the denominator 100 using equivalent fractions. When the denominator doesn't go in to 100, use a calculator and multiply the fraction by 100.	$\frac{3}{25} = \frac{12}{100} = 12\%$ $\frac{9}{17} \times 100 = 52.9\%$
Percentages to Fractions	Percentage is just a fraction out of 100. Write the percentage over 100 and simplify.	$14\% = \frac{14}{100} = \frac{7}{50}$

Calculating with Percentages

Increase or Decrease by a Percentage	Non-calculator: Find the percentage and add or subtract it from the original amount. Calculator: Find the percentage multiplier and multiply.	<u>Increase 500 by 20% (Non Calc):</u> 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600 <u>Decrease 800 by 17% (Calc):</u> 100%-17%=83% 83% ÷ 100 = 0.83 0.83 x 800 = 664
Percentage Multiplier	The number you multiply a quantity by to increase or decrease it by a percentage .	The multiplier for increasing by 12% is 1.12 The multiplier for decreasing by 12% is 0.88 The multiplier for increasing by 100% is 2.
Reverse Percentage	Find the correct percentage given in the question , then work backwards to find 100% Look out for words like 'before' or 'original'	A jumper was priced at £48.60 after a 10% reduction. Find its original price. $100\% - 10\% = 90\%$ $90\% = £48.60$ $1\% = £0.54$ $100\% = £54$

