

Pythagoras and Trigonometry

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|----|--------------------|--|
| 1 | Square number | The output of a number multiplied by itself |
| 2 | Square root | A value that can be multiplied by itself to give a square number |
| 3 | Hypotenuse | The largest side on a right angled triangle |
| 4 | Opposite | The side opposite the angle of interest |
| 5 | Adjacent | The side next to the angle of interest |
| 6 | Pythagoras Theorem | $a^2 + b^2 = c^2$ |
| 7 | Cosine ratio | The ratio of the length of the adjacent side to that of the hypotenuse |
| 8 | Sine ratio | The ratio of the length of the opposite side to that of the hypotenuse |
| 9 | Tangent ratio | The ratio of the length of the opposite side to that of the adjacent. |
| 10 | Inverse | The function that has the opposite effect |

Index laws and standard form

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|----|------------------|--|
| 1 | Standard form | A system of writing very big or very small numbers |
| 2 | Base | The number that gets multiplied by a power |
| 3 | Power/ exponent | The number that tells you how many times to use the number in multiplication |
| 4 | Indices | The power or the exponent |
| 5 | Coefficient | The number used to multiply a variable |
| 6 | $A \times 10^n$ | A = any number between 1 and less than 10 |
| 7 | $A \times 10^n$ | N can only be an integer |
| 8 | Negative indices | Do not indicate negative solutions |
| 9 | $a^m \times a^n$ | a^{m+n} |
| 10 | $a^m \div a^n$ | a^{m-n} |

Percentages

| | | |
|---|-------------------|--|
| 1 | Percent | Parts per 100, written using the % symbol |
| 2 | Reduce | To make smaller in value |
| 3 | Growth | To increase in value |
| 4 | Profit | The income take away any expenses/costs |
| 5 | Percentage change | $\frac{\text{Difference in values}}{\text{Original value}} \times 100$ |

Ratio and Proportion

| | | |
|----|---------------------|---|
| 1 | Ratio | Shows the relative size of two variables |
| 2 | Equivalent | Of equal value |
| 3 | Proportion | A comparison between two numbers |
| 4 | Direct proportion | As one variable is multiplied by a scale factor the other variable is multiplied by the same scale factor |
| 5 | Inverse proportion | As one variable is multiplied by a scale factor the other is divided by the same scale factor |
| 6 | Best buy | To calculate best buys you need to be able to compare the cost of one unit or units of equal amounts |
| 7 | Best buy | Is the most product for the lowest price per unit |
| 8 | Unit ratio | A ratio where the first number is a one. The general form of a unit ratio is 1:n |
| 9 | Simplifying a ratio | To reduce a ratio to its lowest terms by dividing by a common factor |
| 10 | Sharing in a ratio | A method of sharing out an amount in a given ratio |