## Averages and spread

| | | |
|---|---|---|
| Mean | Fair | Calculate the mean for the following data set 8, 1, 1, 3, 2<br>8 + 1 + 1 + 3 + 2 = 15<br>15 ÷ 5 = 3<br>Mean = 3 |
| Median | Middle (put the numbers in order) | Calculate the median for the following data set 8, 1, 1, 3, 2<br>1, 1, 2, 3, 8<br>Median = 2 |
| Mode | Most | Calculate the mode for the following data set 8, 1, 1, 3, 2<br>1, 1, 2, 3, 8<br>Mode = 1 |
| Range | Spread (biggest – smallest) | Calculate the range for the following data set 8, 1, 1, 3, 2<br>1, 2, 2, 3, 8<br>8 - 1 = 7<br>Range = 7 |

## Ratio and Proportion

| | | |
|---|---|---|
| Connection between two things | Box method | Jay travels 15 miles in 35 minutes. How much will he travel in 1 hour? Connection? Put it in a box! |
| What do we look for | Up down, side to side | miles 15 ÷7 5 x12 60; minutes 35 5 is the HCF of 35 and 60 |
| And if that fails? | Middle man, think HCF | Answer: 36 miles |
| Converting units | Box method | Convert 0.03m into cm. Connection? Put it in a box! m 1 0.03; cm 100 x100 x100 |
| Currency questions | Box method | Answer: 3cm |
| Recipe questions | Box method | |
| Value for money | Box method with same amounts | To make juice I mix 1 part squash with 4 parts water. How much squash do I need for 2L of juice? Connection? Put it in a box! S 1 W 4 Total 5 x400 400 2000 |
| | | Answer: 400ml |

## Fractions >> Decimals >> Percentages

| | | |
|---|---|---|
| % means | Out of 100 | Write 48% as a fraction in simplest form<br>48% = 48/100 = — Always look to simplify |
| Fractions to decimals | The line means divide | Convert 5/8 to a percentage |
| What do we use? | Bus stop | 5 ÷ 8 = 0.625; 8 \| 5.000; = 62.5% |
| Fractions to % | Equivalent fractions Make the denominator 100 | Write 3/20 as a percentage |
| If that fails | The line means divide | 3/20 = —/100 = —% |

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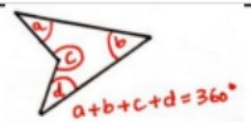
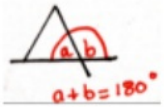
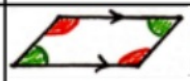
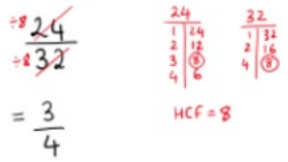
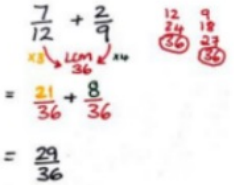
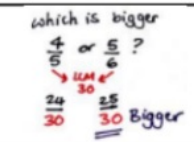
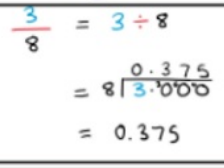
## Angles

| | | |
|---|---|---|
| Angles in a triangle | Add up to 180° |   |
| Angles in a quadrilateral | Add up to 360° |   |
| Angles on a straight line | Add up to 180° |   |
| Opposite angles | In a parallelogram are equal |    |
| Vertically opposite | Angles are equal |  a = b |
| Angles around a point | Add up to 360° |  x+y+z=360° |
| Isosceles triangles | Base angles are equal |  |

## Fractions

| | | |
|---|---|---|
| Equivalent fractions | Multiply top and bottom by the same thing |   |
| Simplifying fractions | Find the HCF | |
| Adding and subtracting fractions | Find the LCM |   |
| Comparing fractions | Find the LCM |   |
| The fraction line means | Divide |   |
| The numerator | Goes in the bus stop | |

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