

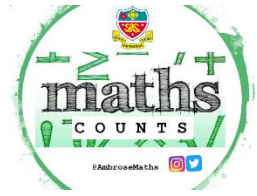
# Knowledge Organiser



Lent Term

Year 7

| Topic  |  |  |  | Independent learning and homework tasks                            |   |
|--|--|--|--|--|---|
|  |  |  |  | MyMaths  | CorbettMaths.com  |
| Properties of quadrilaterals   |  |  |  | Shape/2D and 3D shape  | 2D & 3D Shapes:<br>Names/quadrilaterals/nets<br>/vertices, edges & faces<br>Videos 1-5                          |
| Finding areas and perimeters of rectangles, triangles, parallelograms and trapeziums                                       |  |  |  | Shape/Area of ...rectangles/triangles/a parallelograms/a trapezium | Area:<br>Parallelogram/rectangle/<br>Trapezium/triangle<br>Videos 44, 45, 48 & 49<br>Perimeter - Video 241      |
| Draw, measure and name angles  |  |  |  | Shape/Angles/Measuring Angles                                      | Angles:<br>Drawing/measuring/types of<br>Videos 28, 31 & 38   |
| Solving problems involving angles and parallel lines   |  |  |  | Shape/Angles/Angles in Parallel lines                              | Angles: parallel lines (Video 25)   |
| Solving Linear Equations   |  |  |  | Algebra/Equations-linear   | Equations: solving (Video 110)  |
| Factorising expressions  |  |  |  | Algebra/Algebraic Manipulation/Factorising linear                  | Factorisation (Video 117)   |
| Rearranging formulae (basic)   |  |  |  | Algebra/Expressions and Formulae/Rearranging 1                     | Algebra:<br>Changing the subject (Video 7)  |
| Equivalent fractions and cancelling down fractions   |  |  |  | Number/Fractions/Equivalent Fractions                              | Fractions: equivalent (Video 135)   |
| Convert between improper fractions and mixed numbers   |  |  |  | Number/Fractions/Improper and Mixed                                | Fractions:<br>Improper to mixed/mixed to improper<br>Videos 139-140   |
| Add and subtract fractions and mixed numbers   |  |  |  | Number/Fractions/Adding Subtracting Fractions                      | Fractions:<br>Addition same denom<br>/addition different denom<br>Videos 132-133                                |
| Multiply and divide fractions  |  |  |  | Number/Fractions/Multiply Divide Fractions                         | Fractions:<br>Division/multiplication<br>Videos 134 & 142   |
| Construct and interpret statistical diagrams including pictograms, bar charts, line graphs, pie charts, frequency polygons |  |  |  | Data/Presenting Data/...   | Graphs:<br>Bar charts/line graphs/pictograms/pie charts/frequency polygons<br>Videos - 147,148,155,156, 160-164 |



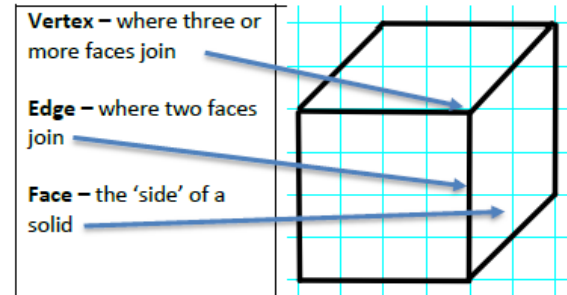
**Stretch and Challenge:**

- 1) Practise UKMT Junior Maths Challenge Past papers on:  
<https://www.ukmt.org.uk/competitions/solo/junior-mathematical-challenge/archive>
- 2) Set up an account on parallel.org.uk website, using your school email address and use teacher code "ha52kh"

**Lent Term Knowledge**

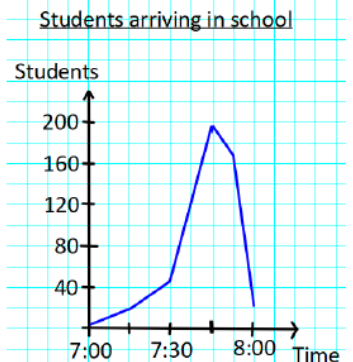
|   |   |
|---|---|
| <p><b>Square</b></p> <p>Four equal sides<br/>Two pairs of parallel sides<br/>Four right angles</p>                            | <p><b>Rectangle</b></p> <p>Two pairs of equal sides<br/>Two pairs of parallel sides<br/>Four right angles</p>             |
| <p><b>Rhombus</b></p> <p>Four equal sides<br/>Two pairs of parallel sides<br/>Two pairs of equal angles</p>                   | <p><b>Parallelogram</b></p> <p>Two pairs of equal sides<br/>Two pairs of parallel sides<br/>Two pairs of equal angles</p> |
| <p><b>Kite</b></p> <p>Two pairs of equal sides<br/>One pair of equal angles<br/>No parallel sides</p>                         | <p><b>Arrow head</b></p> <p>Two pairs of equal sides<br/>One pair of equal angles<br/>No parallel sides</p>               |
| <p><b>Isosceles Trapezium</b></p> <p>One pair of parallel sides<br/>One pair of equal sides<br/>Two pairs of equal angles</p> | <p><b>Trapezium</b></p> <p>One pair of parallel sides<br/>No equal sides<br/>No equal angles</p>                          |

**3d solids**



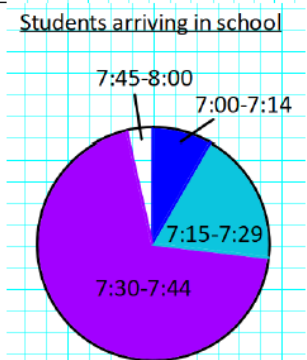
**Line graph**

Title of data and axis labelled  
Data points plotted on lines  
Scale used and values interpolated



**Pie chart**

Title of data  
Sectors labelled (or a key used)



| <p><b>Pictogram</b></p> <p>Title of data<br/>Data being reported in the left column<br/>Pictures showing the data and Key</p> <p><b>Cars</b>   Cars arriving per minute</p> <table border="1"> <tr> <td>3</td> <td>⊙ ⊙ ⊙ ⊙</td> </tr> <tr> <td>4</td> <td>⊙ ⊙ ⊙ ⊙ ⊙</td> </tr> <tr> <td>5</td> <td>⊙ ⊙</td> </tr> <tr> <td>6</td> <td>⊙ ⊙ ⊙ ⊙</td> </tr> <tr> <td>7</td> <td>⊙</td> </tr> </table> <p>⊙ = 2 cars</p> | 3         | ⊙ ⊙ ⊙ ⊙ | 4 | ⊙ ⊙ ⊙ ⊙ ⊙ | 5 | ⊙ ⊙ | 6 | ⊙ ⊙ ⊙ ⊙ | 7 | ⊙ | <p><b>Bar chart (discrete data)</b></p> <p>Title of data and axis labelled<br/>Bars separate<br/>Labels for bars under bars</p> <p><b>Cars arriving per minute</b></p> <table border="1"> <caption>Cars arriving per minute</caption> <thead> <tr> <th>Cars</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>7</td> </tr> <tr> <td>4</td> <td>9</td> </tr> <tr> <td>5</td> <td>4</td> </tr> <tr> <td>6</td> <td>7</td> </tr> <tr> <td>7</td> <td>2</td> </tr> </tbody> </table> | Cars | Frequency | 3 | 7 | 4 | 9 | 5 | 4 | 6 | 7 | 7 | 2 | <p><b>Bar chart (continuous data)</b></p> <p>Title of data and axis labelled<br/>Bars joined<br/>Labels for bars not under bars</p> <p><b>Hours spent doing homework</b></p> <table border="1"> <caption>Hours spent doing homework</caption> <thead> <tr> <th>Hours</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>8</td> </tr> <tr> <td>3</td> <td>7</td> </tr> <tr> <td>4</td> <td>3</td> </tr> <tr> <td>5</td> <td>1</td> </tr> </tbody> </table> | Hours | Frequency | 1 | 5 | 2 | 8 | 3 | 7 | 4 | 3 | 5 | 1 |
|--|-----------|---------|---|-----------|---|-----|---|---------|---|---|---|------|-----------|---|---|---|---|---|---|---|---|---|---|--|-------|-----------|---|---|---|---|---|---|---|---|---|---|
| 3  | ⊙ ⊙ ⊙ ⊙   |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 4  | ⊙ ⊙ ⊙ ⊙ ⊙ |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 5  | ⊙ ⊙       |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 6  | ⊙ ⊙ ⊙ ⊙   |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 7  | ⊙         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| Cars   | Frequency |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 3  | 7         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 4  | 9         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 5  | 4         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 6  | 7         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 7  | 2         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| Hours  | Frequency |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 1  | 5         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 2  | 8         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 3  | 7         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 4  | 3         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |
| 5  | 1         |         |   |           |   |     |   |         |   |   |   |      |           |   |   |   |   |   |   |   |   |   |   |  |       |           |   |   |   |   |   |   |   |   |   |   |

**Scan for full list of Year 7 topics**

