

# Year 5 Merlins Mathematics Summer 1

## Geometry Shape Position & Direction Number Decimals

|                        | Key Vocabulary     | Definition   |
|------------------------|--------------------|--|
| Angles                 | <b>acute</b>       | An angle measuring less than 90 degrees.   |
|                        | <b>angle</b>       | The space between 2 intersecting (crossing) lines.                                   |
|                        | <b>cuboid</b>      | A 3-D shape with 6 rectangular faces.  |
|                        | <b>degrees</b>     | The unit for measuring the size of an angle.   |
|                        | <b>estimate</b>    | To make an educated guess based on rounding.   |
|                        | <b>irregular</b>   | A shade that has sides, faces or angles that are all different sizes.                |
|                        | <b>obtuse</b>      | An angle between 90 degrees and 180 degrees.   |
|                        | <b>polygon</b>     | A shape with three or more straight sides.   |
|                        | <b>protractor</b>  | An instrument used to measure angles (in degrees).                                   |
|                        | <b>reflex</b>      | An angle between 180 degrees and 360 degrees.  |
| Position and direction | <b>regular</b>     | A shape where all the sides are equal lengths, and the angles are equal too.         |
|                        | <b>compass</b>     | An item used in navigation that shows direction.                                     |
|                        | <b>coordinates</b> | Shows the exact position of a point on a graph.                                      |
|                        | <b>directions</b>  | The line or direction that something is going.                                       |
|                        | <b>horizontal</b>  | Running parallel to the horizon (left to right). The x-axis.                         |
|                        | <b>mirroring</b>   | Where a shape is flipped over the line of reflection to face the opposite direction. |
|                        | <b>symmetry</b>    | Where one half is a mirror image of the other.                                       |
|                        | <b>translation</b> | To move an object in any direction without rotating it.                              |
| Decimals               | <b>vertical</b>    | At right angles to the horizon. It runs from top to bottom.                          |
|                        | <b>complement</b>  | The amount you must add to an addend to make the total.                              |
|                        | <b>tenth</b>       | A whole broke into ten equal parts. As a decimal it is 0.1                           |
|                        | <b>hundredth</b>   | One of a hundred equal parts. As a decimal 0.01                                      |

### Adding and Subtracting Decimals

$$0.8 + 0.001 = 0.801$$

$$1.031 - 0.23 = 0.801$$

$$0.4005 + 0.4005 = 0.801$$

The place value of the digits is important. Tenths digits must be added to tenths digits.

Like other addition, exchanging is important.

### Identifying Angles and Using a Protractor

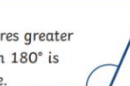
#### Acute Angles

Any angle that measures less than 90° is called an acute angle.



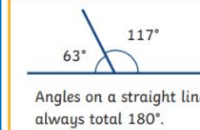
#### Obtuse Angles

Any angle that measures greater than 90° and less than 180° is called an obtuse angle.

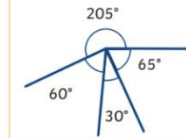


#### Reflex Angles

Any angle that measures greater than 180° is called a reflex angle.



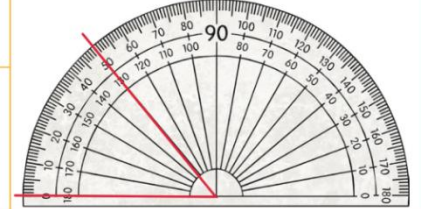
Angles on a straight line always total 180°.



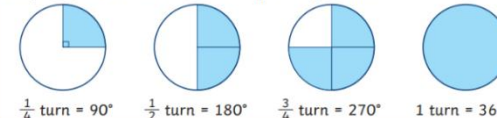
Angles around a point always total 360°.

#### Measuring and Drawing Angles

To measure angles, we use a protractor. Look carefully at how the numbers on the scale count from 0° to 180° in both directions.



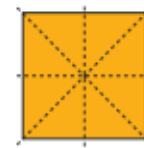
Multiples of 90° can be used as descriptions of a turn.



### Lines of Symmetry

Lines of symmetry may be horizontal, vertical, or diagonal. Some 2D shapes have no lines of symmetry whilst others have multiple lines of symmetry.

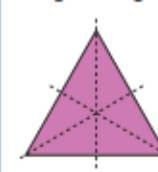
A square has four lines of symmetry.



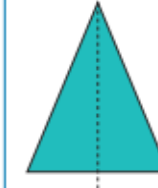
A rectangle has two lines of symmetry.



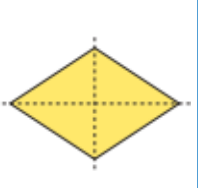
An equilateral triangle has three lines of symmetry.



An isosceles triangle has one line of symmetry.



A rhombus has two lines of symmetry.



### Regular and Irregular Polygons

|                           | Regular Polygons | Irregular Polygons |
|---------------------------|------------------|--------------------|
| With odd number of sides  | <br><br>         | <br><br>           |
| With even number of sides | <br><br>         | <br><br>           |

2D shapes have two dimensions: width and height.

2D shapes are completely flat and cannot be physically held, because they have no depth.

A regular shape is a 2D shape where all interior (inside) angles and sides