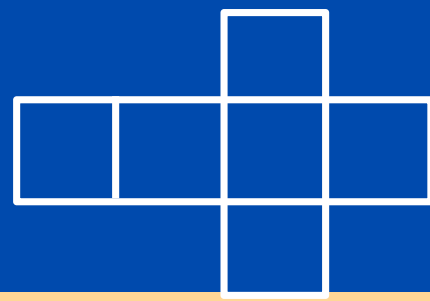


MATHS- SHAPE

YEAR 5



RECAP

- A protractor is used to measure angles.
- A regular shape is a 2D shape with all sides being the same length and all angles being the same size.
- Name a variety of 2D and 3D shapes..

CRUCIAL KNOWLEDGE

- There are three types of triangle; a scalene, isosceles and equilateral triangle. There are 180 in a straight line.
- The interior angles of a triangle add up to 180.
- There are four types of angle: acute, right, obtuse and reflex.
- A whole turn, or angles around a point is 360 degrees.
- A straight line or half turn is 180 degrees).
- A right angle or quarter turn is 90 degrees.
- A net is a 2d plan that you can fold to make a 3D shape.
- 3-D shapes have 3 dimensions: height, width and depth. They have faces, vertices and edges.
- Translation means moving an object on a grid. The object is moved without changing in size, turning or reflecting. The object can move up, down, left or right.

Polygon names	
3 sides	triangle
4 sides	quadrilateral
5 sides	pentagon
6 sides	hexagon
7 sides	heptagon
8 sides	octagon
9 sides	nonagon
10 sides	decagon

< 90°

acute

= 90°

right angle

> 90°

< 180°

obtuse

= 180°

straight line

> 180°

< 360°

reflex

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

$\frac{1}{4}$ turn = 90°

$\frac{1}{2}$ turn = 180°

$\frac{3}{4}$ turn = 270°

1 turn = 360°

Properties of 3-D Shapes

3-D shapes have 3 dimensions: height, width and depth. They are not flat. They have faces, vertices and edges. A face is a flat or curved surface on a 3-D shape, e.g. a cube has 6 faces.

Cube

- 6 flat faces

- 12 flat edges

- 8 vertices

Cuboid

- 6 flat faces

- 12 flat edges

- 8 vertices

Tetrahedron

- 4 flat faces

- 6 flat edges

- 4 vertices

Hexagonal Prism

- 8 flat faces

- 18 flat edges

- 12 vertices

Square-Based Pyramid

- 5 flat faces

- 8 flat edges

- 5 vertices

Triangular Prism

- 5 flat faces

- 9 flat edges

- 6 vertices

Pentagonal Prism

- 7 flat faces

- 15 flat edges

- 10 vertices

Octagonal Prism

- 10 flat faces

- 24 flat edges

- 16 vertices

Point A has coordinates of (-2,3)

Point B has coordinates of (3,3)

Point C has coordinates of (3,-2)

Point D has coordinates of (-2,-2)

KEY VOCABULARY

Diameter

The distance from one side of the circle to the other travelling through the centre.

Translation

Moving a shape from one point on a grid to another.

Quadrant

One of four grids around the 0 origin that shows the location of a point.

Origin

The zero point on the co-ordinates grid.

Circumference

The distance around the outside of a circle.

Rectilinear

A shape with straight sides that all meet at right angles.

Prism

A 3D shape with a cross-section of a polygon all the way along its length.

Radius

The distance from the centre of a circle to the circumference.

Perpendicular

Lines that are at a right angle to each other where they meet.

Cube

A 3D shape with six square faces.

Reflex

An angle greater than 180° and less than 360°.

Regular

A shape where sides and angles are all equal.

Vertically Opposite

The angles formed when two straight lines cross over.

Cuboid

A 3D shape with six rectangular faces.

Polygon

A shape with straight sides.

Irregular

A shape where sides and angles are not all equal.