



**Topic: Measurement—Properties of Shapes**

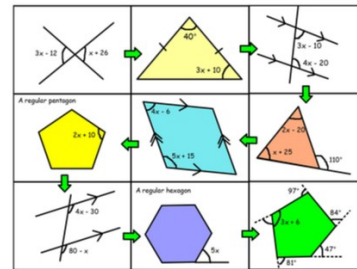
**Year: 6**

**Strand: Geometry**

**What should I already know?**

Previous learning that will help you with this unit of work:

- Know the properties of rectangles and some other polygons
- Know the difference between a regular and an irregular polygon
- Know the different parts of a circle
- Add and subtract numbers up to three digits



**Key Vocabulary**

Acute angle	An angle that is less than 90°
Angle	An angle is the difference in direction between two lines or surfaces. Angles are measured in degrees.
Equilateral Polygon	A shape or figure that is equilateral has sides that are all the same length.
equilateral triangle	a triangle with all 3 sides of equal length.
Faces	One of the flat surfaces of a solid shape.
Irregular Polygon	A shape lacking uniformity or symmetry; uneven in shape, position, arrangement, etc
Isosceles triangle	A triangle having two sides of equal length
Kite	A quadrilateral with two pairs of equal, adjacent sides whose diagonals consequently intersect at right angles.
Obtuse angle	An angle between 90° and 180°
Opposite	If one thing is opposite another, it is on the other side of a space from it.
Parallel	If two lines, two objects, or two lines of movement are parallel, they are the same distance apart along their whole length.
Polygon	A polygon can be defined as a flat or plane, two-dimensional closed shape with straight sides. It does not have curved sides.
Protractor	A protractor is a flat, semi-circular piece of plastic or metal which is used for measuring angles.
Quadrilateral	A polygon which has four sides.
Reflex angle	An angle which measures greater than 180° and less than 360°
Regular Polygon	A polygon which has all sides equal and all internal angles equal.
Right-angle	A right angle is an angle of ninety degrees. A square has four right angles.
right-angled triangle	A right triangle or right-angled triangle is a triangle in which one angle is a right angle.
scalene triangle	A triangle with no two sides equal and consequently no two angles equal.
Straight angle	An angle that is exactly 180° degrees.

**What will I know by the end of the unit?**

What do I use to measure angles?	A protractor
How many degrees are on a straight line?	180°
What do the interior angles in a triangle add up to?	180°
Does the size or type of triangle change what its angle add up to?	No
What do the interior angles in a quadrilateral add up to?	360°
How many faces does a cube have?	Six
How many degrees are in a full circle?	360°
What are the 4 types of angles?	Acute, right, obtuse, reflex
If there are 90 degrees in one right angle, how many degrees are there in 3?	270°
What is a net?	A 2D plan you can fold into a 3D shape

**Objectives**

- Draw 2-D shapes using given dimensions and angles.
- Recognise, describe and build simple 3-D shapes, including making nets
- Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
- Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- Illustrate and name the main parts of a circle, and know diameter is twice the radius.

**Useful Websites**

<https://www.bbc.co.uk/bitesize/topics/zb6tyrd>  
<https://home.oxfordowl.co.uk/maths/primary-geometry-shapes/geometry-shapes-year-6-age-10-11/>