Geometry

IGCSE Mathematics · Vocabulary in context

Word	Example
• **vertex** /'vɜ:teks/	The **vertex** of $y = (x - 2)^2 + 3$ is (2, 3). $y = (x - 2)^2 + 3$ (2, 3)
= **parallel** /'pærəlel/	**Parallel** lines have equal gradients and never meet.
+ **perpendicular** /ˌpɜ:pən'dɪkjʊlə/	The wall is **perpendicular** to the floor.
› **acute angle** /ə'kju:t 'æŋgl/	An **acute angle** is less than 90°. 90°
☐ **right angle** /raɪt 'æŋgl/	A **right angle** is 90°. 90°
» **obtuse angle** /ɒb'tju:s 'æŋgl/	An **obtuse angle** is between 90° and 180°. 90° 180°
↻ **reflex angle** /'ri:fleks 'æŋgl/	A **reflex angle** is more than 180°. 180°
× **vertically opposite angles** /'vɜ:tɪkli 'ɒpəzɪt 'æŋglz/	**Vertically opposite angles** are equal.
⧉ **corresponding angles** /ˌkɒrɪ'spɒndɪŋ 'æŋglz/	**Corresponding angles** on parallel lines are equal.
⇆ **alternate angles** /ɔ:l'tɜ:nət 'æŋglz/	**Alternate angles** on parallel lines are equal.
[ ] **co-interior angles** /kəʊ ɪn'tɪərɪə 'æŋglz/	**Co-interior angles** add up to 180°. 180°
⊕ **supplementary** /ˌsʌplɪ'mentəri/	Angles on a straight line are **supplementary**: they add to 180°. 180°
△ **triangle** /'traɪæŋgl/	The angles in a **triangle** add to 180°. 180°

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△ **equilateral** /ˌi:kwɪ'lætərəl/	An **equilateral** triangle has three equal sides.
◿ **isosceles** /aɪ'sɒsəli:z/	An **isosceles** triangle has two equal sides.
◿ **scalene** /'skeɪli:n/	A **scalene** triangle has no equal sides.
☐ **quadrilateral** /ˌkwɒdrɪ'lætərəl/	A **quadrilateral** has four sides.
☐ **square** /skweə/	The area of a **square** is its side squared.
▭ **rectangle** /'rektæŋgl/	The average value is the height of a **rectangle** with the same area.
▱ **parallelogram** /ˌpærə'leləgræm/	A **parallelogram** has two pairs of parallel sides.
◇ **rhombus** /'rɒmbəs/	A **rhombus** has four equal sides.
⧋ **kite** /kaɪt/	A **kite** has two pairs of equal sides next to each other.
⏢ **trapezium** /trə'pi:zɪəm/	Split the area under the graph into a **trapezium** and a triangle.
⬠ **polygon** /'pɒlɪgən/	A **polygon** is a flat shape with straight sides.
⯃ **regular polygon** /'regjʊlə 'pɒlɪgən/	A **regular polygon** has equal sides and equal angles.
⬠ **pentagon** /'pentægən/	A **pentagon** has five sides.
⬡ **hexagon** /'heksægən/	A **hexagon** has six sides.
⯃ **octagon** /'ɒktægən/	An **octagon** has eight sides.
⯃ **decagon** /dɪ'kægən/	A **decagon** has ten sides.

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interior angle /ɪn'tɪərɪə 'æŋgl/	Each **interior angle** of a square is 90°. 90°
exterior angle /ek'stɪərɪə 'æŋgl/	The **exterior angle** of a regular hexagon is 60°. 60°
line symmetry /laɪn 'sɪmətri/	A square has four lines of **line symmetry**.
rotational symmetry /rəʊ'teɪʃənl 'sɪmətri/	A square has **rotational symmetry** of order 4. 4
plane of symmetry /pleɪn ɒv 'sɪmətri/	A **plane of symmetry** cuts a solid into two mirror halves.
axis of symmetry /'æksɪs ɒv 'sɪmətri/	The **axis of symmetry** of $y = x^2$ is the y-axis. $y = x^2$ y
circle /'sɜ:kl/	Every point on a **circle** is equally far from its centre.
centre /'sentə/	The **centre** of a circle is the same distance from every point on it.
radius /'reɪdɪəs/	The **radius** of a circle is the distance from the centre to the edge.
diameter /daɪ'æmɪtə/	Measure the **diameter** of the wire with a micrometer.
circumference /sɜ:'kʌmfrəns/	The **circumference** is the distance around a circle.
chord /kɔ:d/	A **chord** is a straight line joining two points on a circle.
arc /ɑ:k/	The **arc** is part of the edge of a circle.
sector /'sektə/	A **sector** is a slice of a circle, like a piece of pizza.

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Word	Example
segment /'segmənt/	A **segment** is the part of a circle cut off by a chord.
semicircle /'semɪsɜ:kl/	A **semicircle** is half a circle.
tangent /'tændʒənt/	Draw a **tangent** to the curve to find the gradient at one point.
cyclic quadrilateral /'saɪklɪk ˌkwɒdrɪ'lætərəl/	The corners of a **cyclic quadrilateral** all lie on a circle.
alternate segment theorem /ɔ:l'tɜ:nət 'segmənt 'θɪərəm/	The **alternate segment theorem** links a tangent and a chord.
similar /'sɪmɪlə/	**Similar** shapes have the same shape but different sizes.
scale factor /skeɪl 'fæktə/	A **scale factor** of 2 doubles every length. 2
congruent /'kɒŋgru:ənt/	**Congruent** shapes are exactly the same size and shape.
bearing /'beərɪŋ/	The ship sails on a **bearing** of 090°, due east. 090°
clockwise /'klɒkwaɪz/	The hands of a clock turn **clockwise**.
construct /'kɒnstrʌkt/	**Construct** a triangle using a ruler and compasses.
compasses /'kʌmpəsɪz/	Use **compasses** to draw a circle.
net /net/	The **net** of a cube is six squares joined together.
scale drawing /skeɪl 'drɔ:ɪŋ/	A **scale drawing** shows a real object smaller.
solids /'sɒlɪdz/	Cubes and spheres are **solids**.

Word	Example
cube /kjuːb/	A **cube** has six square faces.
cuboid /ˈkjuːbɔɪd/	A **cuboid** is shaped like a box.
prism /ˈprɪzəm/	A **prism** has the same cross-section all the way through.
cylinder /ˈsɪlɪndə/	A tin can is a **cylinder**.
pyramid /ˈpɪrəmɪd/	A **pyramid** has a base and triangular sides meeting at a point.
cone /kəʊn/	An ice cream cone is a **cone**.
sphere /sfɪə/	A ball is a **sphere**.
hemisphere /ˈhemɪsfɪə/	A **hemisphere** is half of a sphere.
frustum /ˈfrʌstəm/	A **frustum** is a cone with its top cut off.
face /feɪs/	A cube has six **face** surfaces.
edge /edʒ/	An **edge** is where two faces meet.
surface /ˈsɜːfɪs/	A cylinder has a curved **surface**.

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