GCSE Maths: Geometry words and notation (Higher): answers

GCSE Maths - Angles, Polygons and Symmetry - Higher - Lesson 17.1

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at **websink.site/gcse/maths/ch17-angles-polygons-symmetry/higher/geometry-words-and-notation/**

Exercise 17A Words, notation and naming angles Non-calculator

1 Write the correct geometry word for each description.

(a) Two lines that always stay the same distance apart.

Answer: parallel

(b) Two lines that meet at 90°.

Answer: perpendicular

(c) A corner of a polygon.

Answer: vertex

(d) A closed flat shape with straight sides.

Answer: polygon

(e) A polygon with all sides equal and all angles equal.

Answer: regular polygon

(f) The piece of a line between two points.

Answer: line segment

2 Write down the name of each type of angle.

(a) 35°

Answer: acute

(b) 90°

Answer: right angle

(c) 150°

Answer: obtuse

(d) 180°

Answer: straight line

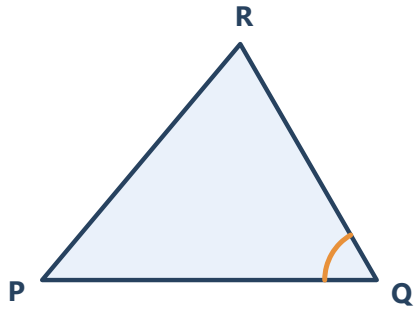
(e) 270°

Answer: reflex

(f) 89°

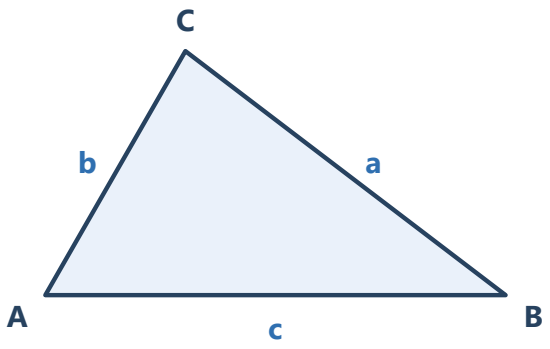
Answer: acute

3 Write the three-letter name of the angle marked with an arc in this triangle.



Answer: angle PQR (or angle RQP)

4 **Triangle ABC is shown.**



(a) Which side is opposite angle A?

Answer: a (the side BC)

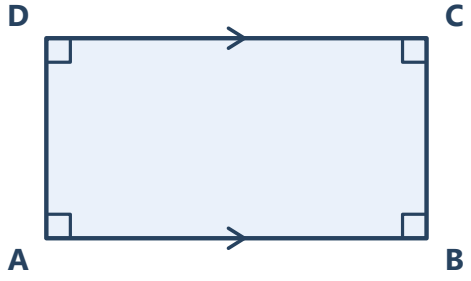
(b) Which side is opposite angle B?

Answer: b (the side AC)

(c) Which angle is opposite side c?

Answer: angle C

5 **ABCD is a rectangle. Use the diagram to complete each statement with parallel or perpendicular.**



(a) AB and DC are _____.

Answer: parallel

(b) AB and BC are _____.

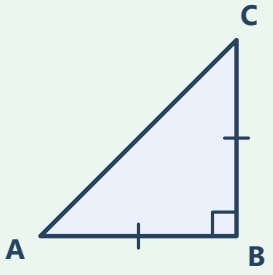
Answer: perpendicular

(c) Write down the names of two vertices that are joined by an edge of the rectangle.

Answer: for example A and B

6 **Draw a sketch of triangle ABC where angle ABC = 90° and AB = BC. (Mark the right angle and the equal sides.) What type of triangle is it?**

Answer:



isosceles right-angled triangle

7 **Complete the table for each regular polygon.**

(a) A pentagon: how many sides and how many vertices?

Answer: 5 sides and 5 vertices

(b) A hexagon: how many sides and how many vertices?

Answer: 6 sides and 6 vertices

(c) A octagon: how many sides and how many vertices?

Answer: 8 sides and 8 vertices

(d) A decagon: how many sides and how many vertices?

Answer: 10 sides and 10 vertices

8 **A cube has 6 faces. Write down the number of its (a) vertices (b) edges.**

(a) vertices

Answer: 8

(b) edges

Answer: 12

9 **Say whether each statement is true or false.**

(a) A square is a type of rectangle.

Answer: True

(b) Parallel lines meet at a right angle.

Answer: False

(c) A regular hexagon has six equal sides and six equal angles.

Answer: True

10 **Write the correct name for each triangle.**

(a) A triangle with all three sides equal.

Answer: equilateral

(b) A triangle with exactly two equal sides.

Answer: isosceles

(c) A triangle with no equal sides.

Answer: scalene

(d) A triangle with one angle of 90°.

Answer: right-angled

11 **Two lines, PQ and RS, are both perpendicular to a third line, TU. What can you say about PQ and RS? Draw a sketch to explain.**

Answer: PQ and RS are parallel

12 **How many diagonals does a hexagon have? (A *diagonal* joins two vertices that are not next to each other.)**

Answer: 9

13 **Show that a polygon with n sides has $n(n - 3) \div 2$ diagonals.**

Answer: See solution

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