MATHEMATICS · GRADES 10-12

Right-triangle terminology

Difficulty level: Advanced

Mathematics: Grades 10-12

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Overview of the concept

This is how you name the sides and angles of a triangle with a square corner, so you can talk about a ramp, a roof, or a ladder without confusion. A builder talking about a roof needs to know which side is the slope and which is the flat run, and a ramp builder needs the same words. If everyone calls the sides by different names, the measurements get mixed up and the cut is wrong. Agreed names for the sides and angles are what let two people build the same triangle.



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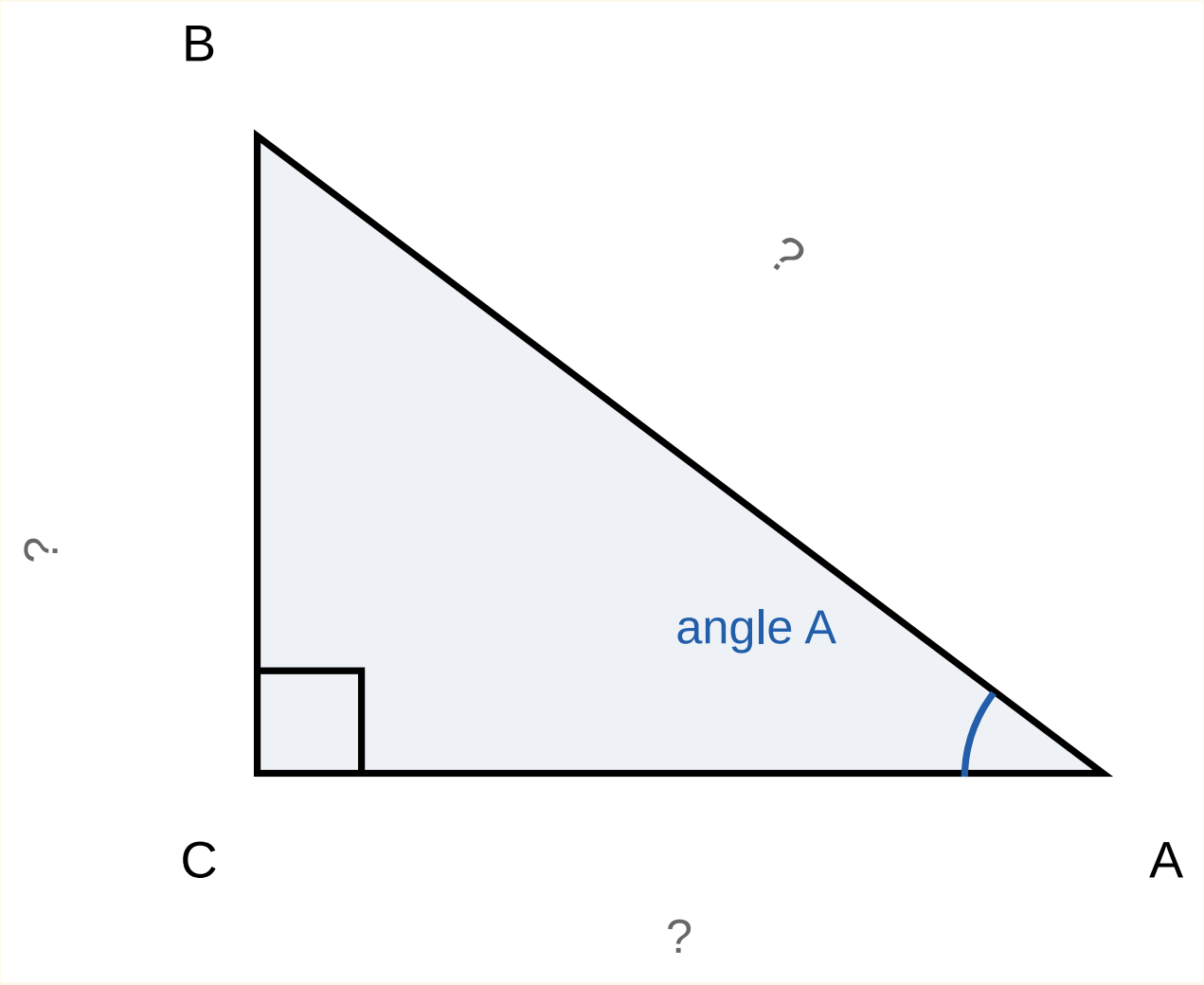
Worked examples

EXAMPLE 1

Q Name the parts of a right triangle with angles A, B, and a right angle C.



SOLUTION

The right angle is C, marked with a small square in the corner.

The side across from C is the hypotenuse, the longest side.

The other two sides are called the legs of the triangle.

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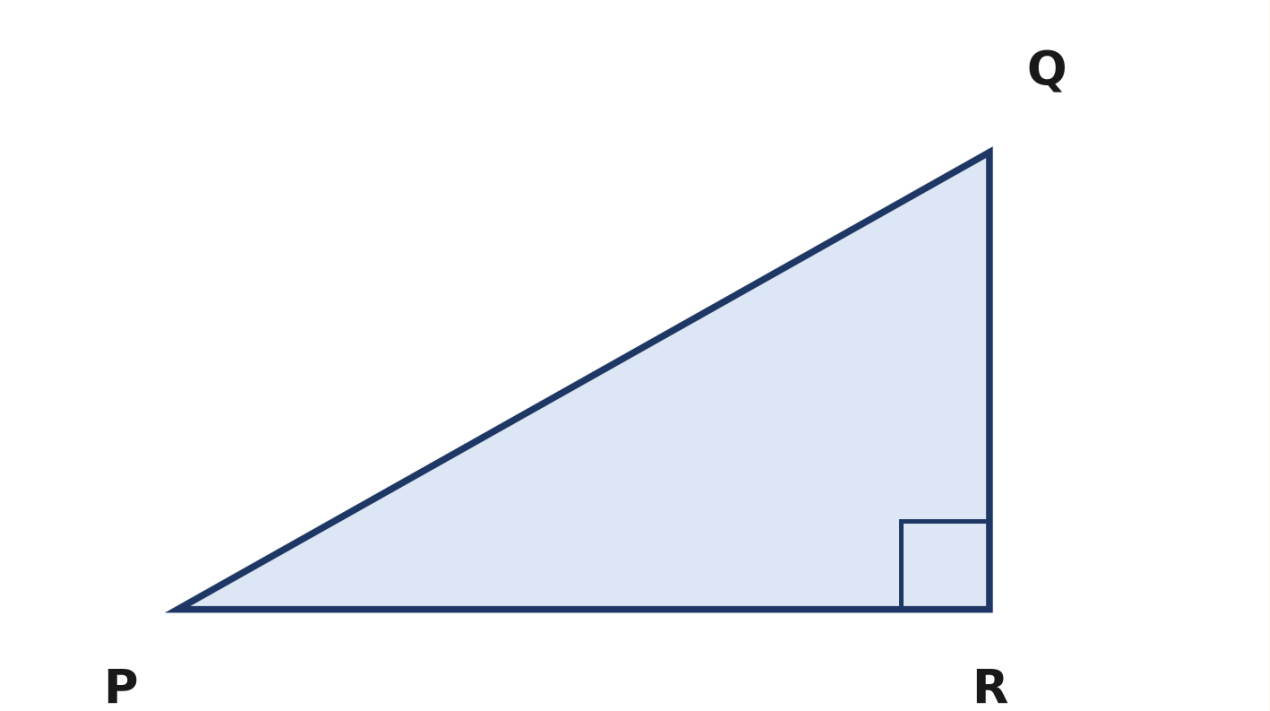
EXAMPLE 2

Q In triangle PQR, right-angled at R, which side is the hypotenuse?



SOLUTION

The right angle is at R, so the hypotenuse is across from R.

The side across from R joins P to Q.

The hypotenuse is PQ.

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Practice questions

1 In a right triangle, what is the side across from the right angle called?

- **A** The hypotenuse
- **B** A leg
- **C** The adjacent side
- **D** The opposite side

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2 In a right triangle, what are the two sides that form the right angle called?

- **A** The hypotenuses
- **B** The legs
- **C** The bases
- **D** The right angles

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3 If a triangle is right-angled at B, which side is the hypotenuse?

- A AB
- B BC
- C AC
- D AB and BC

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4 What mark shows which angle is the right angle?

- A A small square in the corner
- B A small circle in the corner
- C A tick mark on the side
- D An arrow on the side

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5 True or false: the hypotenuse is the longest side of a right triangle.

- **A** True
- **B** False

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6 In triangle ABC, right-angled at C, which two sides are the legs?

- **A** AB and AC
- **B** AC and BC
- **C** AB and BC
- **D** AB, AC and BC

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Which angle is opposite the hypotenuse in a right triangle?

A The right angle

B An acute angle

C The smallest angle

D The largest acute angle

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What is a leg of a right triangle?

A The side across from the right angle

B One of the two sides forming the right angle

C The longest side of the triangle

D The side that does not touch the right angle

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If the right angle is at M, which two sides meet at M?

A The hypotenuse and one leg

B The two legs

C The hypotenuse and the opposite side

D The two longest sides

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Name the three sides of a right triangle by their roles.

A Hypotenuse and two legs

B Two hypotenuses and a leg

C Three legs

D Hypotenuse, base and height

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ANSWER KEY

1. The hypotenuse

2. The legs

3. AC

4. A small square in the corner

5. True

6. AC and BC

7. The right angle

8. One of the two sides forming the right angle

9. The two legs

10. Hypotenuse and two legs

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