Pythagoras review

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. Find the hypotenuse with legs 8 cm and 15 cm. [2 marks]

$c^2 = 64 + 225 = 289$.

$c = 17$ cm.

Answer: 17 cm

2. Find the missing leg: hypotenuse 13 m, other leg 5 m. [2 marks]

$x^2 = 169 - 25 = 144$.

$x = 12$ m.

Answer: 12 m

3. Find the hypotenuse with legs 7 mm and 24 mm. [2 marks]

$c^2 = 49 + 576 = 625$.

$c = 25$ mm.

Answer: 25 mm

4. Find the hypotenuse with legs 10 m and 11 m. Round to one decimal place. [2 marks]

$c = \sqrt{100 + 121} = \sqrt{221} \approx 14.9$ m.

Answer: 14.9 m

5. Can sides 6 cm, 8 cm and 11 cm make a right triangle? Explain. [3 marks]

$6^2 + 8^2 = 100$ but $11^2 = 121$.

The required equality is false.

Answer: No

6. A rectangular sign is 9 cm by 12 cm. Find its diagonal. [3 marks]

$d = \sqrt{9^2 + 12^2} = \sqrt{225} = 15$ cm.

Answer: 15 cm