GCSE Maths Pythagoras and Trigonometry (Foundation): check-up and exam-style questions: worksheet

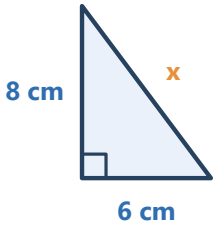
GCSE Maths - Pythagoras and Trigonometry - Foundation - Test yourself

Name: _____ Date: _____ Score: _____

22 questions. Write your answers in the spaces. Answers and step-by-step help are free at **websink.site/gcse/maths/ch20-pythagoras-trigonometry/foundation/check-up-and-exam-style-questions/**

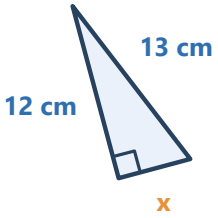
Exercise 20Z Check-up (non-calculator) Non-calculator

1 Work out the length of the hypotenuse, *x*.



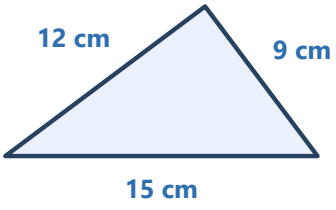
Answer:

2 Work out the length of the shorter side, *x*.



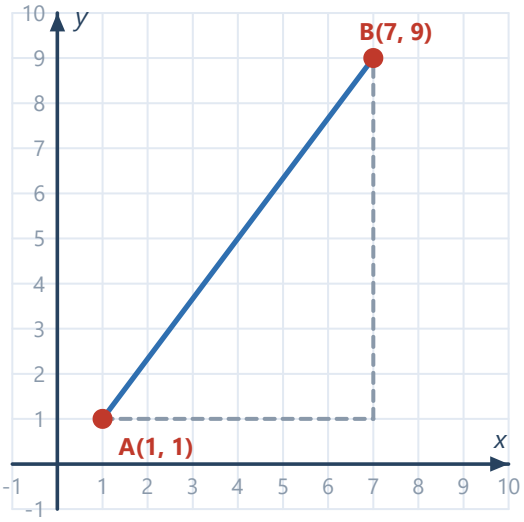
Answer:

3 Is a triangle with sides 9 cm, 12 cm and 15 cm right-angled? Show your working.



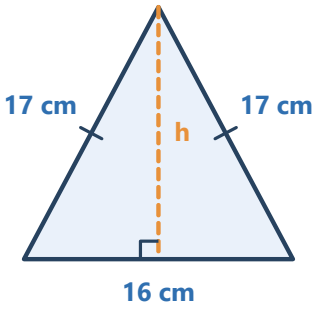
Answer:

4 Work out the distance between A(1, 1) and B(7, 9).



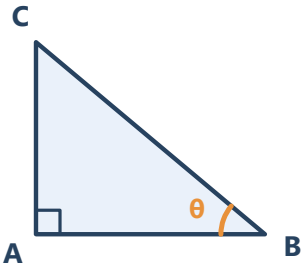
Answer:

5 An isosceles triangle has equal sides of 17 cm and a base of 16 cm. Work out its area.



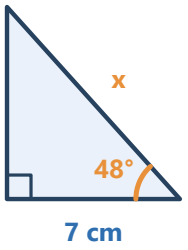
Answer:

6 Write down the hypotenuse, the side opposite θ and the side adjacent to θ.



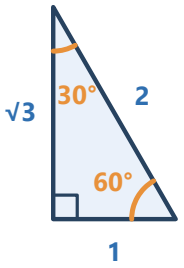
Answer:

7 Write down an equation to find *x*. Do not solve it.



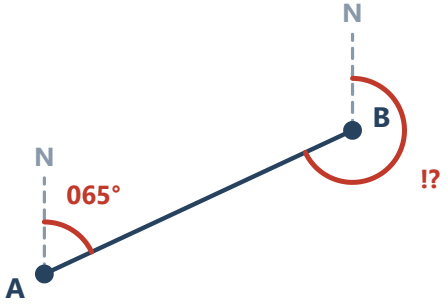
Answer:

8 Work out the exact value of sin 30° + cos 60°.



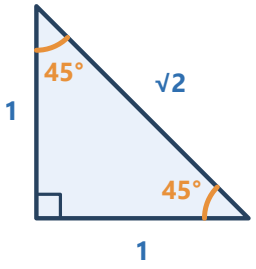
Answer:

9 The bearing of B from A is 065°. Work out the bearing of A from B.



Answer:

10 Write down the exact values of tan 45° and sin 60°.



(a) tan 45°

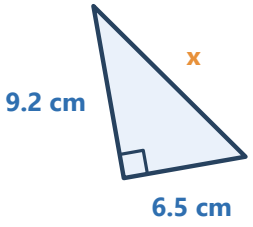
Answer:

(b) sin 60°

Answer:

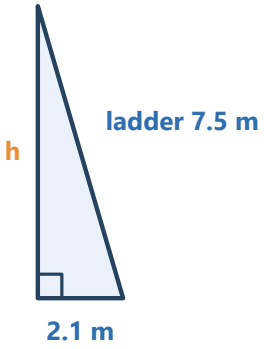
Exercise 20X Exam-style questions Non-calculator

1 Work out the length of x. Give your answer correct to 1 decimal place. [2 marks]



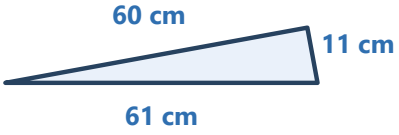
Answer:

2 A ladder of length 7.5 m rests against a vertical wall with its foot on level ground, 2.1 m from the wall. Work out how high up the wall the ladder reaches. [3 marks]



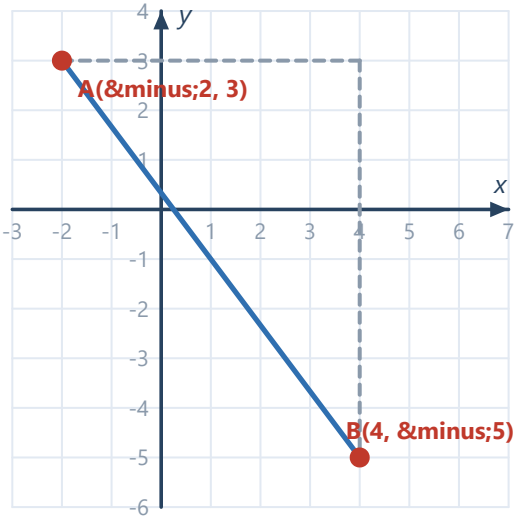
Answer:

3 A triangle has sides of length 11 cm, 60 cm and 61 cm. Is the triangle right-angled? You must show how you decide. [3 marks]



Answer:

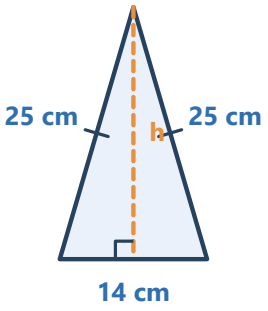
4 A is the point (−2, 3) and B is the point (4, −5). Work out the length of AB. [3 marks]



Answer:

5 An isosceles triangle has equal sides of 25 cm and a base of 14 cm. Work out the area of the triangle.

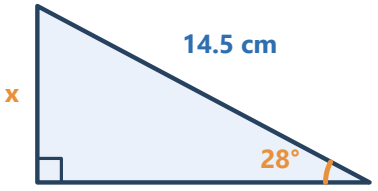
[3 marks]



Answer:

6 Work out the length of *x*. Give your answer correct to 1 decimal place.

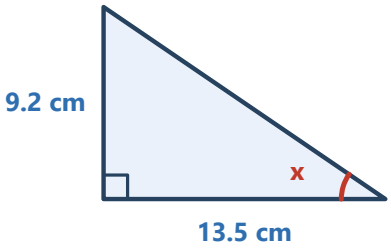
[2 marks]



Answer:

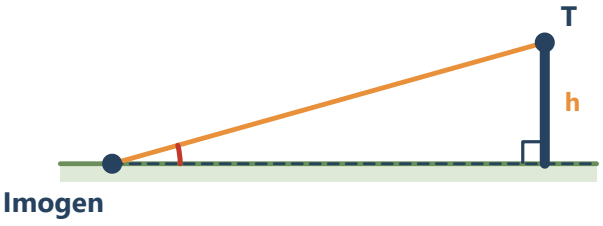
7 Work out the size of angle *x*. Give your answer correct to 1 decimal place.

[3 marks]



Answer:

8 From a point 40 m from the foot of a vertical building on level ground, the angle of elevation of the top of the building is 35°. (a) Work out the height of the building, correct to 1 decimal place. (b) Imogen stands 100 m from the foot of the building. Work out the angle of elevation of the top of the building from Imogen, correct to 1 decimal place. [4 marks]



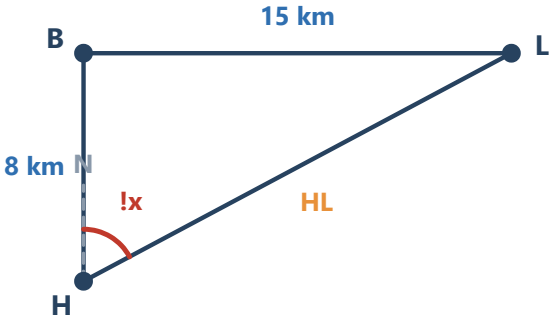
(a) (a)

Answer:

(b) (b)

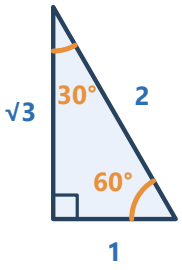
Answer:

9 A boat leaves a harbour H and travels 8 km due north to a buoy B, then 15 km due east to a lighthouse L. Work out (a) the distance HL, (b) the bearing of L from H, to the nearest degree. [4 marks]



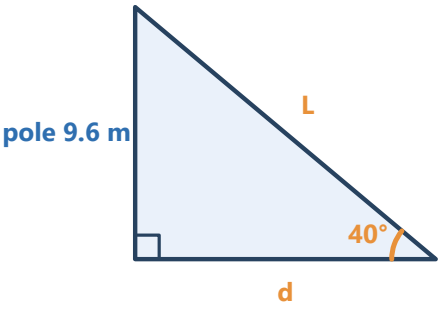
Answer:

10 Work out the exact value of sin 60° × tan 30°. Give your answer as a fraction. [2 marks]



Answer:

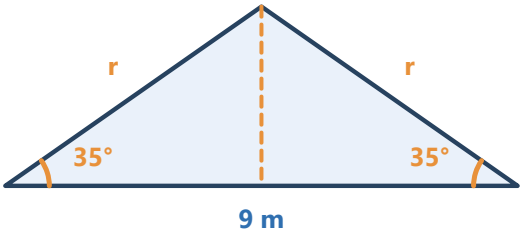
11 A vertical pole is 9.6 m tall. A wire runs from the top of the pole to a peg in the ground. The wire makes an angle of 40° with the ground. Work out (a) the length of the wire, (b) the distance from the foot of the pole to the peg. Give your answers correct to 1 decimal place. [4 marks]



(a) (a)
Answer:

(b) (b)
Answer:

12 The diagram shows the end of a roof. It is an isosceles triangle with a horizontal base of 9 m. Each base angle is 35°. Work out (a) the height of the roof, (b) the length of one sloping rafter. Give your answers correct to 2 decimal places. [5 marks]



(a) (a)
Answer:

(b) (b)
Answer:

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