



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Pythagoras & Trigonometry · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Pythagoras & Trigonometry

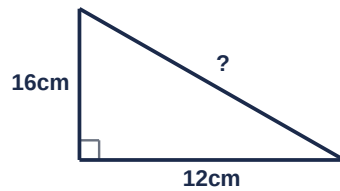
Total marks available: 83

● Pythagoras & Trigonometry

Q1

[2 marks]

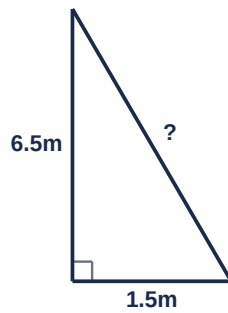
The right-angled triangle below has legs of 12cm and 16cm. Calculate the length of the hypotenuse, marked with a question mark.



Q2

[2 marks]

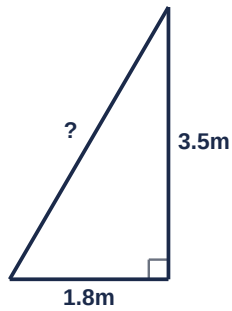
A ladder rests against a vertical wall. The foot of the ladder is 1.5m from the base of the wall, and the ladder reaches 6.5m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q3

[2 marks]

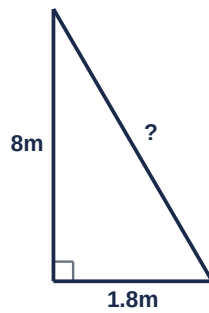
A ladder rests against a vertical wall. The foot of the ladder is 1.8m from the base of the wall, and the ladder reaches 3.5m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q4

[2 marks]

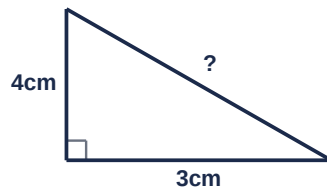
A ladder rests against a vertical wall. The foot of the ladder is 1.8m from the base of the wall, and the ladder reaches 8m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q5

[2 marks]

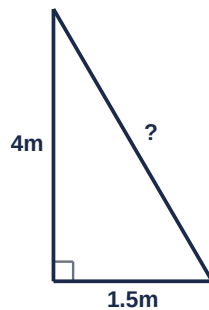
The right-angled triangle below has legs of 3cm and 4cm. Calculate the length of the hypotenuse, marked with a question mark.



Q6

[2 marks]

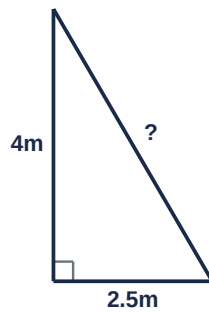
A ladder rests against a vertical wall. The foot of the ladder is 1.5m from the base of the wall, and the ladder reaches 4m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q7

[2 marks]

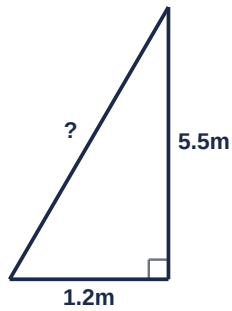
A ladder rests against a vertical wall. The foot of the ladder is 2.5m from the base of the wall, and the ladder reaches 4m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q8

[2 marks]

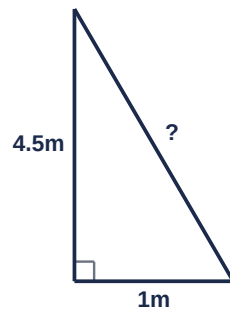
A ladder rests against a vertical wall. The foot of the ladder is 1.2m from the base of the wall, and the ladder reaches 5.5m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q9

[2 marks]

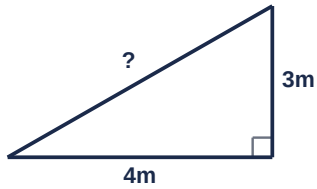
A ladder rests against a vertical wall. The foot of the ladder is 1m from the base of the wall, and the ladder reaches 4.5m up the wall. Find the length of the ladder. Give your answer to 1 decimal place.



Q10

[2 marks]

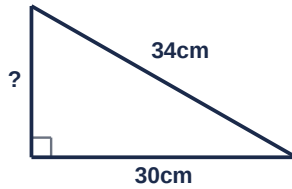
The right-angled triangle below has legs of 4m and 3m. Calculate the length of the hypotenuse, marked with a question mark.



Q11

[3 marks]

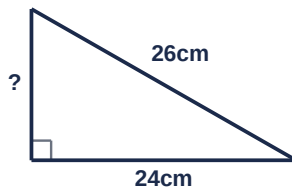
The right-angled triangle below has a hypotenuse of 34cm and one leg of 30cm. Calculate the length of the other leg, marked with a question mark.



Q12

[3 marks]

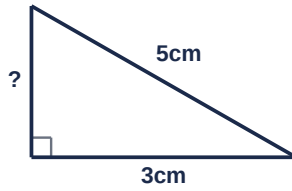
The right-angled triangle below has a hypotenuse of 26cm and one leg of 24cm. Calculate the length of the other leg, marked with a question mark.



Q13

[3 marks]

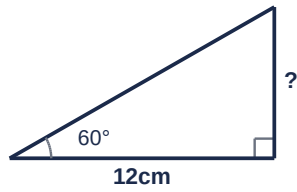
The right-angled triangle below has a hypotenuse of 5cm and one leg of 3cm. Calculate the length of the other leg, marked with a question mark.



Q14

[3 marks]

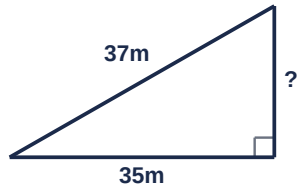
In the right-angled triangle below, the adjacent is 12cm and one angle is 60° . Use trigonometry to calculate the length of the side marked with a question mark (opposite). Give your answer to 1 decimal place.



Q15

[3 marks]

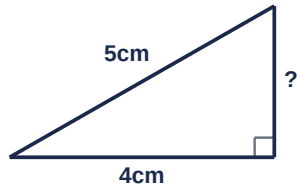
The right-angled triangle below has a hypotenuse of 37m and one leg of 35m. Calculate the length of the other leg, marked with a question mark.



Q16

[3 marks]

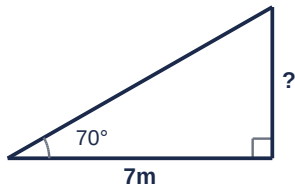
The right-angled triangle below has a hypotenuse of 5cm and one leg of 4cm. Calculate the length of the other leg, marked with a question mark.



Q17

[3 marks]

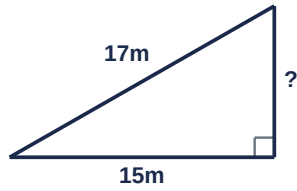
In the right-angled triangle below, the adjacent is 7m and one angle is 70° . Use trigonometry to calculate the length of the side marked with a question mark (opposite). Give your answer to 1 decimal place.



Q18

[3 marks]

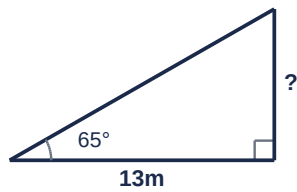
The right-angled triangle below has a hypotenuse of 17m and one leg of 15m. Calculate the length of the other leg, marked with a question mark.



Q19

[3 marks]

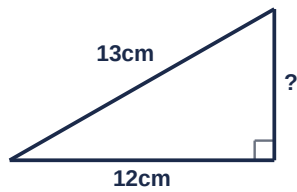
In the right-angled triangle below, the adjacent is 13m and one angle is 65° . Use trigonometry to calculate the length of the side marked with a question mark (opposite). Give your answer to 1 decimal place.



Q20

[3 marks]

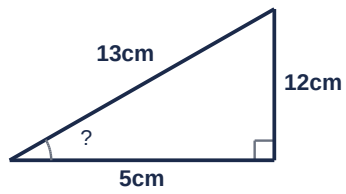
The right-angled triangle below has a hypotenuse of 13cm and one leg of 12cm. Calculate the length of the other leg, marked with a question mark.



Q21

[3 marks]

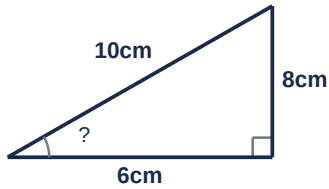
In the right-angled triangle below, the hypotenuse is 13cm and the side adjacent to the marked angle is 5cm. Calculate the angle marked with a question mark, to 1 decimal place.



Q22

[3 marks]

In the right-angled triangle below, the hypotenuse is 10cm and the side opposite the marked angle is 8cm. Calculate the angle marked with a question mark, to 1 decimal place.



Q23

[4 marks]

From a point on level ground, the angle of elevation to the top of a flagpole is 70° . The flagpole is 21m tall. Calculate the horizontal distance from the point to the base of the flagpole, to 1 decimal place.

Q24

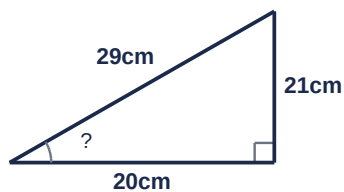
[4 marks]

From a point on level ground, the angle of elevation to the top of a tower is 50° . The tower is 10m tall. Calculate the horizontal distance from the point to the base of the tower, to 1 decimal place.

Q25

[3 marks]

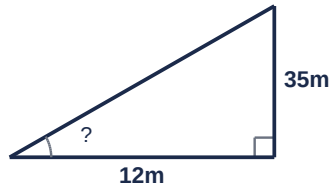
In the right-angled triangle below, the hypotenuse is 29cm and the side opposite the marked angle is 21cm. Calculate the angle marked with a question mark, to 1 decimal place.



Q26

[3 marks]

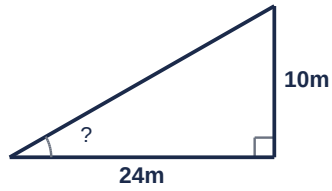
In the right-angled triangle below, the two legs are 12m and 35m. Calculate the angle marked with a question mark, to 1 decimal place.



Q27

[3 marks]

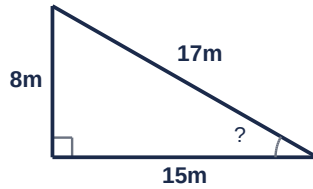
In the right-angled triangle below, the two legs are 24m and 10m. Calculate the angle marked with a question mark, to 1 decimal place.



Q28

[3 marks]

In the right-angled triangle below, the hypotenuse is 17m and the side adjacent to the marked angle is 15m. Calculate the angle marked with a question mark, to 1 decimal place.



Q29

[4 marks]

From a point on level ground, the angle of elevation to the top of a tree is 30° . The tree is 9m tall. Calculate the horizontal distance from the point to the base of the tree, to 1 decimal place.

Q30

[3 marks]

In the right-angled triangle below, the two legs are 8cm and 15cm. Calculate the angle marked with a question mark, to 1 decimal place.

