ENGLAND GCSE MATHS AQA HIGHER · UNIT 11 · 25 QUESTIONS

Geometry, Pythagoras, Trigonometry and Vectors — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A passenger aeroplane takes off at an angle of 30° and flies 200 m. Its height is**

- **A** 90
- **B** 110
- **C** 200
- **D** 100

Understand It with Pulse | Flag a mistake

2 **A rocket climbs at an angle of 30° to the ground and travels 400 m. Its height is**

- A 400
- B 210
- C 200
- D 190

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3 **A brown dog walks 6 m east and then 8 m north. How far is it from its starting point?**

- A 14
- B 9
- C 11
- D 10

Understand It with Pulse | Flag a mistake

4 **A sailing ship sails 8 km east and then 15 km north. How far is it from its starting point?**

- A 18
- B 17
- C 23
- D 16

Understand It with Pulse | Flag a mistake

5 **A kite string is 10 m long and makes an angle of 30° with the ground. The height of the kite is**

- A 4
- B 6
- C 10
- D 5

Understand It with Pulse | Flag a mistake

6 **A ladder 13 m long leans against a wall. Its foot is 5 m from the wall. How high up the wall does it reach?**

- A 15
- B 12
- C 14
- D 5

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7 **ABCD is a parallelogram. Vector AB is a and vector AD is b. Vector AC is**

- A a + b
- B 2a
- C b - a
- D a - b

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8 **The vector a = (3, 3) and the vector b = (2, 4). The vector a + b is**

A (6, 7)

B (5, -1)

C (1, -1)

D (5, 7)

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9 **In a right-angled triangle, the hypotenuse is 12 cm and one angle is 60°. The side next to the 60° angle is**

A 6 cm

B 5 cm

C 12 cm

D 7 cm

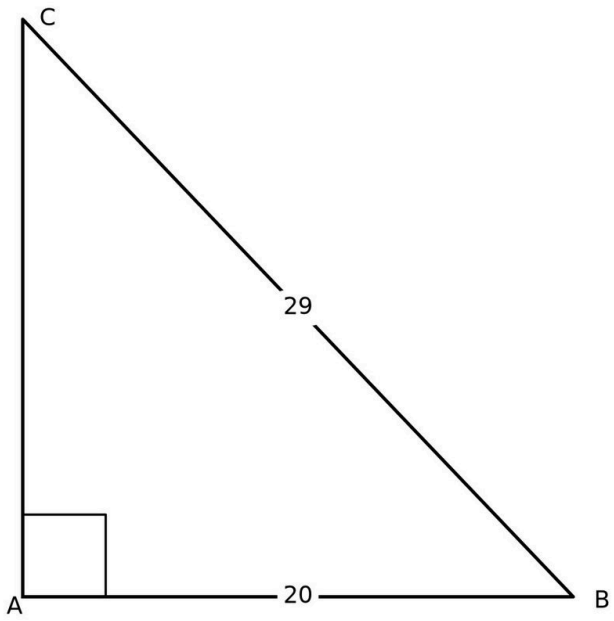
Understand It with Pulse | Flag a mistake

10 **A triangle has sides 8 cm and 10 cm with an included angle of 30°. Its area is**

- **A** 40 cm²
- **B** 80 cm²
- **C** 25 cm²
- **D** 20 cm²

Understand It with Pulse | Flag a mistake

11 **A right-angled triangle has a hypotenuse of 29 cm and one side of length 20 cm. The other side is**



- **A** 9 cm
- **B** 20 cm
- **C** 22 cm
- **D** 21 cm

Understand It with Pulse | Flag a mistake

12 **The exact value of sin 45° is**

A 1

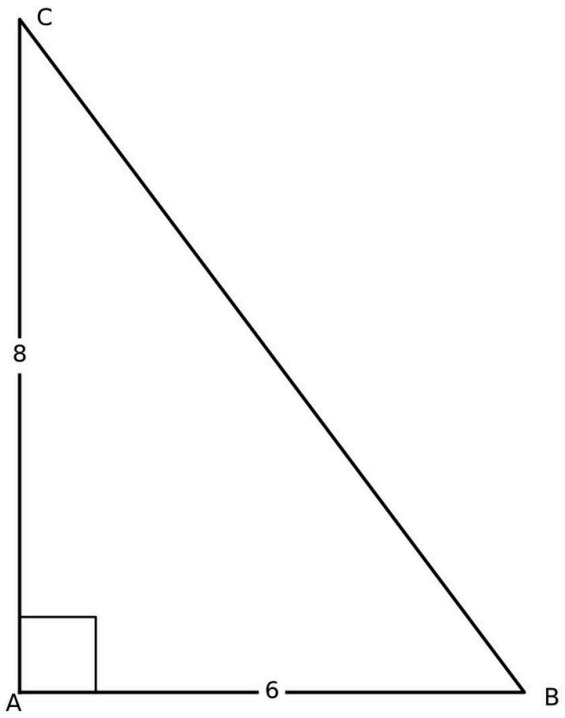
B $\sqrt{3}$

C $\sqrt{3}/2$

D $\sqrt{2}/2$

Understand It with Pulse | Flag a mistake

13 **A right-angled triangle has one side of length 6 cm and the other side of length 8 cm. The hypotenuse is**



A 11 cm

B 10 cm

C 9 cm

D 14 cm

Understand It with Pulse | Flag a mistake

14 **In a right-angled triangle, the hypotenuse is 8 cm and one angle is 30°. The side opposite the 30° angle is**

- A 5 cm
- B 8 cm
- C 4 cm
- D 3 cm

Understand It with Pulse | Flag a mistake

15 **The vector (6, 8) has magnitude**

- A 14
- B 10
- C 9
- D 11

Understand It with Pulse | Flag a mistake

16 **In a right-angled triangle, one angle is 45° and the side next to it is 5 cm. The side opposite the 45° angle is**

- A 4 cm
- B 6 cm
- C 5 cm
- D 10 cm

Understand It with Pulse | Flag a mistake

17 **A cuboid is 12 cm by 16 cm by 21 cm. The longest diagonal is**

- A 28 cm
- B 30 cm
- C 49 cm
- D 29 cm

Understand It with Pulse | Flag a mistake

18 **Two sides of a triangle are 6 cm and 8 cm, with an included angle of 60°. The third side is, to one decimal place, about**

- **A** 14 cm
- **B** 7.2 cm
- **C** 10 cm
- **D** 8.2 cm

Understand It with Pulse | Flag a mistake

19 **In a triangle, side a = 8 cm is opposite an angle of 30° and side b is opposite an angle of 45°. The length of side b is**

- **A** $4\sqrt{2}$
- **B** $16\sqrt{2}$
- **C** $8\sqrt{2}$
- **D** 8

Understand It with Pulse | Flag a mistake

20 **The vector a = (2, 1) and the vector b = (1, 4). The vector a + b is**

- A (1, -3)
- B (3, -3)
- C (3, 5)
- D (4, 5)

Understand It with Pulse | Flag a mistake

21 **In a right-angled triangle, the hypotenuse is 14 cm and one angle is 60°. The side next to the 60° angle is**

- A 14 cm
- B 8 cm
- C 7 cm
- D 6 cm

Understand It with Pulse | Flag a mistake

22 **A triangle has sides 5 cm and 8 cm with an included angle of 30°. Its area is**

A 10 cm²

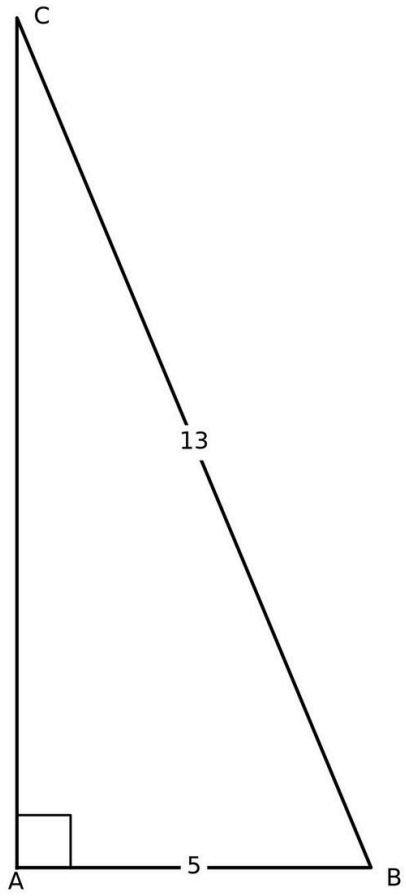
B 15 cm²

C 20 cm²

D 40 cm²

Understand It with Pulse | Flag a mistake

23 **A right-angled triangle has a hypotenuse of 13 cm and one side of length 5 cm. The other side is**



A 11 cm

B 8 cm

C 12 cm

D 13 cm

Understand It with Pulse | Flag a mistake

24 **The exact value of cos 60° is**

- A $\sqrt{3}/2$
- B $\frac{1}{2}$
- C $\sqrt{2}/2$
- D $\sqrt{3}$

Understand It with Pulse | Flag a mistake

25 **In a right-angled triangle, the hypotenuse is 20 cm and one angle is 30°. The side opposite the 30° angle is**

- A 11 cm
- B 9 cm
- C 20 cm
- D 10 cm

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	D	**10.**	D	**19.**	C
2.	C	**11.**	D	**20.**	C
3.	D	**12.**	D	**21.**	C
4.	B	**13.**	B	**22.**	A
5.	D	**14.**	C	**23.**	C
6.	B	**15.**	B	**24.**	B
7.	A	**16.**	C	**25.**	D
8.	D	**17.**	D		
9.	A	**18.**	B		

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