ENGLAND GCSE MATHS EDEXCEL HIGHER · UNIT 9 · 25 QUESTIONS

Geometry, Angles, Shapes, Constructions and Similarity — 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 kite has angles 90, 90, 100 and one more. The fourth angle is**

- A 80
- B 90
- C 100
- D 260

Understand It with Pulse | Flag a mistake

2 **A castle is 25 m tall. Its model is 50 cm tall. The scale factor from the model to the real castle is**

- A 50
- B 60
- C 100
- D 40

Understand It with Pulse | Flag a mistake

3 **The sail of a sailing ship is a right-angled triangle with sides 3 m, 4 m and 5 m. A similar sail has a shortest side of 6 m. Its longest side is**

- A 10
- B 8
- C 15
- D 4

Understand It with Pulse | Flag a mistake

4 **A set square is a right-angled triangle with angles 90 degrees, 60 degrees and one more. The third angle is**

- A 60
- B 30
- C 40
- D 150

Understand It with Pulse | Flag a mistake

5 **A Ferris wheel has 10 equally spaced gondolas. The angle between neighbouring gondolas is**

- A 41
- B 10
- C 36
- D 31

Understand It with Pulse | Flag a mistake

6 **A ladder leans against a wall, making an angle of 70 degrees with the ground. The angle between the ladder and the wall is**

- A 110
- B 70
- C 20
- D 30

Understand It with Pulse | Flag a mistake

7 **A point is translated by the vector binom-4-3. The point moves**

- A 3 up and 4 right
- B 4 left and 3 up
- C 4 right and 3 down
- D 4 left and 3 down

Understand It with Pulse | Flag a mistake

8 **Each exterior angle of a regular polygon with 9 sides is**

A 40°

B 140°

C 80°

D 36°

Understand It with Pulse | Flag a mistake

9 **The interior angle of a triangle is 52°. The exterior angle at the same vertex is**

A 52°

B 128°

C 148°

D 308°

Understand It with Pulse | Flag a mistake

10 **The sum of the interior angles of a polygon with 9 sides is**

- A 1080°
- B 1260°
- C 1620°
- D 1440°

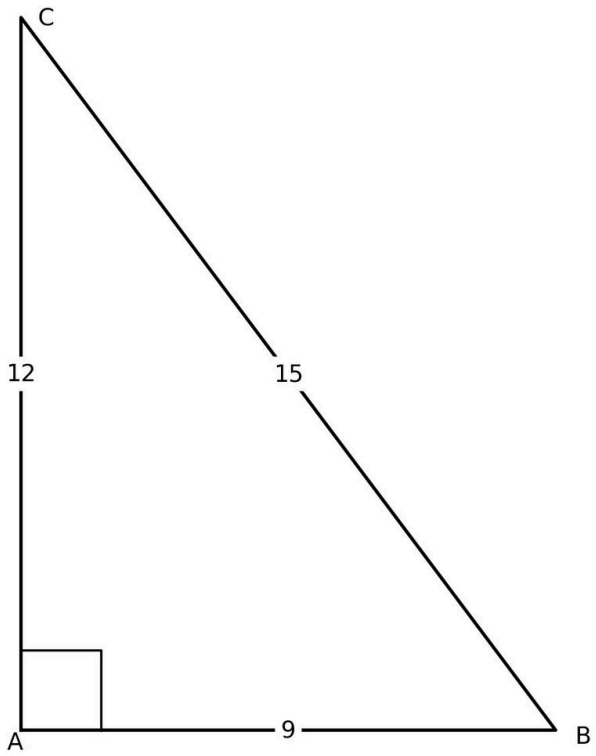
Understand It with Pulse | Flag a mistake

11 **Two straight lines cross. One of the angles formed is 104°. The angle vertically opposite it is**

- A 76°
- B 104°
- C 90°
- D 256°

Understand It with Pulse | Flag a mistake

12 **The diagram shows a right-angled triangle with sides 9 cm, 12 cm and 15 cm. A similar triangle has a shortest side of 18 cm. Its longest side is**



A 45 cm

B 30 cm

C 17 cm

D 15 cm

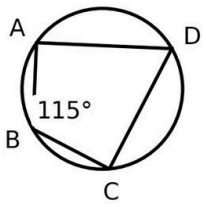
Understand It with Pulse | Flag a mistake

13 **Two angles sit on a straight line. One angle is 76°. The other angle is**

- **A** 114°
- **B** 76°
- **C** 104°
- **D** 284°

Understand It with Pulse | Flag a mistake

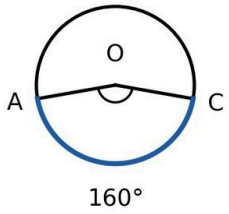
14 **In a quadrilateral in a circle, one angle is 115°. The opposite angle is**



- **A** 65°
- **B** 245°
- **C** 75°
- **D** 115°

Understand It with Pulse | Flag a mistake

15 **An angle at the centre of a circle stands on an arc of 160°. The angle at the circumference standing on the same arc is**



- **A** 90°
- **B** 80°
- **C** 320°
- **D** 160°

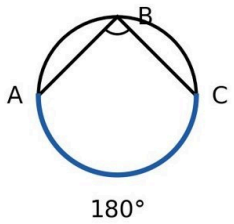
Understand It with Pulse | Flag a mistake

16 **A shape with area 8 cm² is enlarged by scale factor 4. The area of the enlarged shape is**

- **A** 512 cm²
- **B** 12 cm²
- **C** 128 cm²
- **D** 32 cm²

Understand It with Pulse | Flag a mistake

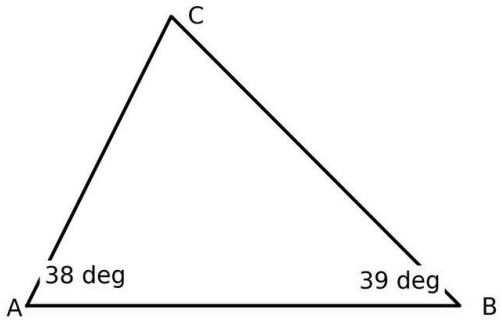
17 **An angle in a semicircle is always**



- **A** 45°
- **B** 60°
- **C** 180°
- **D** 90°

Understand It with Pulse | Flag a mistake

18 **A triangle has two angles of 38° and 39°. The third angle is**



A 118°

B 142°

C 103°

D 77°

Understand It with Pulse | Flag a mistake

19 **Three angles meet at a point. Two of them are 71° and 112°. The third angle is**

A 197°

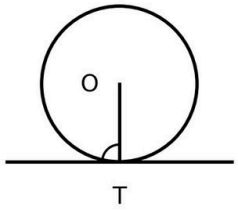
B 109°

C 183°

D 177°

Understand It with Pulse | Flag a mistake

20 **A radius drawn to a point where a tangent touches a circle makes an angle with the tangent of**



- **A** 60°
- **B** 90°
- **C** 45°
- **D** 180°

Understand It with Pulse | Flag a mistake

21 **Two triangles are congruent if they match by**

- **A** side, side, side, side
- **B** side, angle, side
- **C** angle, angle, angle
- **D** side, side, angle

Understand It with Pulse | Flag a mistake

22 **Two parallel lines are cut by a transversal. One angle is 108°. Its alternate angle is**

- A 72°
- B 252°
- C 148°
- D 108°

Understand It with Pulse | Flag a mistake

23 **Each exterior angle of a regular polygon with 6 sides is**

- A 51°
- B 65°
- C 120°
- D 60°

Understand It with Pulse | Flag a mistake

24 The interior angle of a triangle is 97°. The exterior angle at the same vertex is

- A 83°
- B 103°
- C 97°
- D 263°

Understand It with Pulse | Flag a mistake

25 The sum of the interior angles of a polygon with 7 sides is

- A 900°
- B 720°
- C 1080°
- D 1260°

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.