



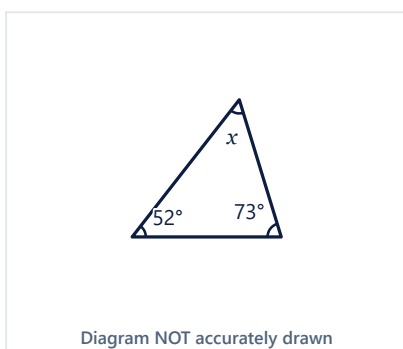
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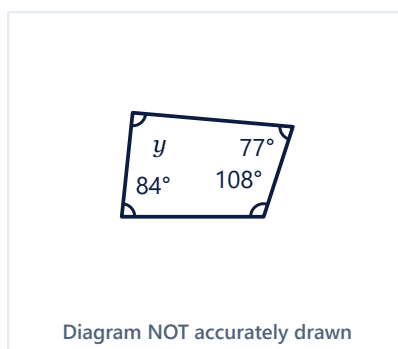
Score: _____ / 37

1 The diagrams show a triangle and a quadrilateral.

- Work out the size of angle x .
- Work out the size of angle y .



a



b

(2 marks)

Answer _____

2 A stop sign is the shape of a regular octagon.

- Work out the size of each exterior angle of a regular octagon.
- Work out the size of each interior angle of a regular octagon.

(2 marks)

Answer _____

3 Each exterior angle of a regular polygon is 30° .

Work out the number of sides of the polygon.

(2 marks)

Answer _____

4 Work out the size of each interior angle of a regular decagon.

(3 marks)

Answer _____

- 5
- Work out the sum of the interior angles of a heptagon.
 - The diagram shows a hexagon. Work out the size of angle x .
 - Four of the exterior angles of a pentagon are 62° , 85° , 71° and 58° . Work out the size of the fifth exterior angle.

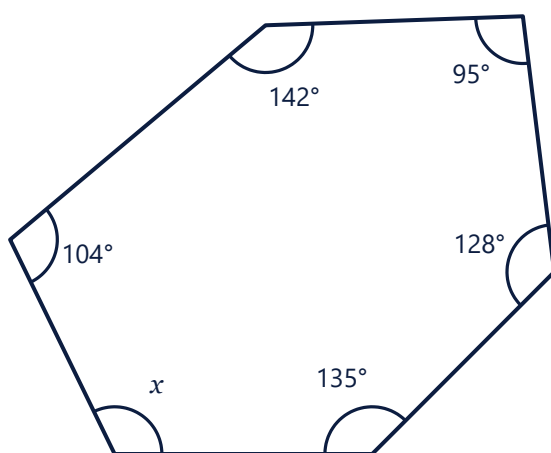


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 6 DE and FG are parallel straight lines.

Triangle ABC is drawn so that A lies on DE, and B and C both lie on FG.

D is to the left of A and E is to the right of A.

Angle DAB = 48° and angle ACB = 63° .

Work out the size of angle BAC.

Give a reason for each stage of your working.

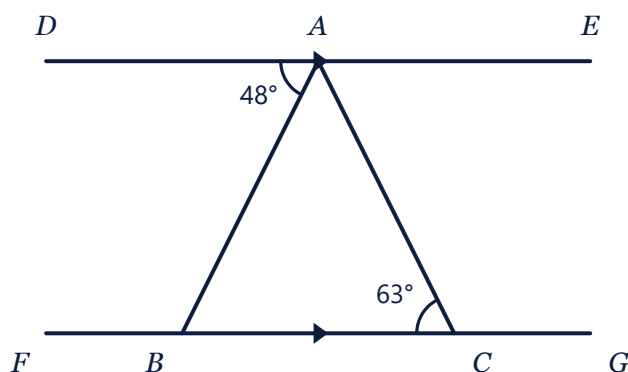


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 7 Each interior angle of a regular polygon is 156° .

Work out the number of sides of the polygon.

(3 marks)

Answer _____

- 8 A pattern of shapes tessellates if the shapes fit together around every point with no gaps and no overlaps.

- Explain why regular hexagons tessellate.
- Explain why regular pentagons do not tessellate.
- Ella makes a floor tile pattern where two regular octagons and one square meet at every point. Show that this pattern has no gaps.

(3 marks)

Answer _____

- 9 The four angles of a quadrilateral are 74° , 101° , $2t^\circ$ and $(t + 5)^\circ$.

Work out the size of the largest angle of the quadrilateral.

(3 marks)

Answer _____

- 10 The interior angles of a hexagon are $2x^\circ$, $2x^\circ$, $3x^\circ$, $3x^\circ$, $4x^\circ$ and $4x^\circ$.

Work out the size of the largest angle.

(3 marks)

Answer _____

- 11 The interior angles of a pentagon are x° , $(x + 30)^\circ$, $(x + 40)^\circ$, $2x^\circ$ and $(2x + 50)^\circ$.

Work out the size of the largest interior angle of the pentagon.

(4 marks)

Answer _____

12 ABCDE is a regular pentagon.

The diagonal AC is drawn.

Work out the size of angle ACD.

Give a reason for each stage of your working.

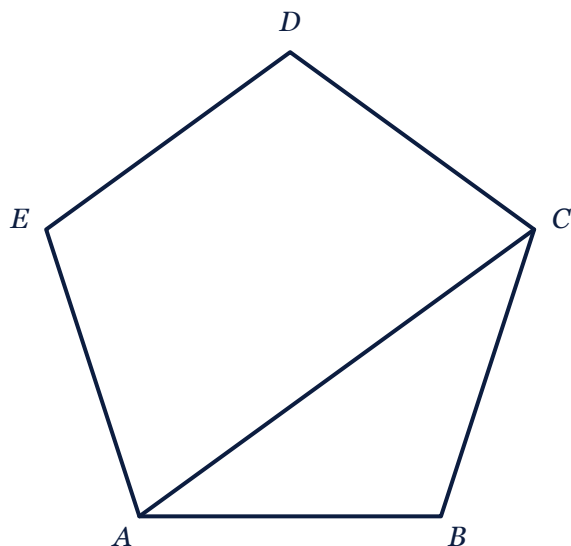


Diagram NOT accurately drawn

(4 marks)

Answer _____

End of questions | Total 37 marks