

Angles · Free Taster Pack

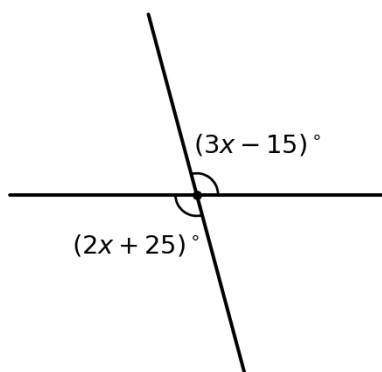
Cambridge IGCSE Mathematics 0580 · Geometry

This free sample includes questions from all four parts of the full **Angles** pack: 8 drill questions with answers, and 2 exam-style questions with the full mark scheme. Show your working and give reasons where asked. Diagrams marked NOT TO SCALE must not be measured.

Part 1 · Drill questions

Angles 1 · Angles at a point, on a line, vertically opposite

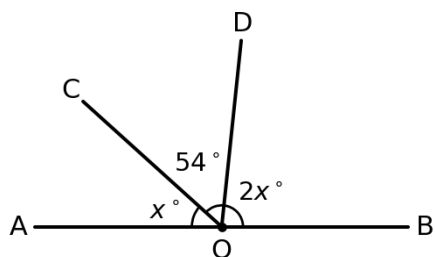
1 Two straight lines cross. Find x and the size of each marked angle.



Answer: _____

Angles 1 · Angles at a point, on a line, vertically opposite

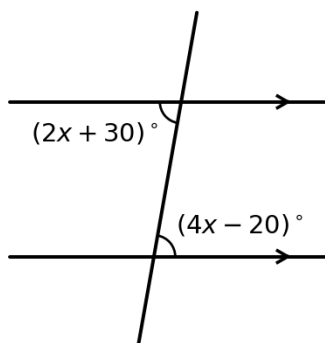
2 AOB is a straight line. Find x and the size of angle DOB.



Answer: _____

Angles 2 · Angles and parallel lines

3 Find x . Then find the size of each marked angle.

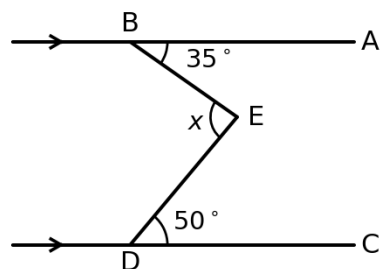


Answer: _____

Angles 2 · Angles and parallel lines

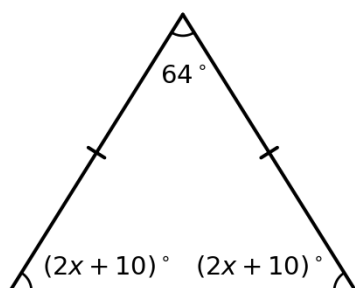
4 AB is parallel to DC. Find x .

Hint: draw a line through E parallel to AB.



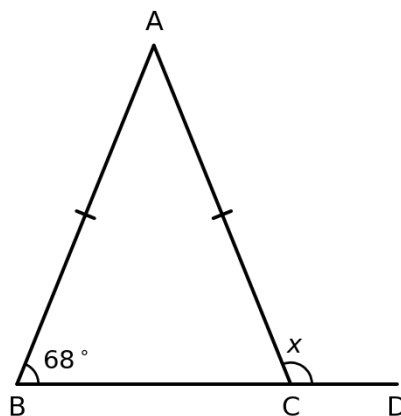
Answer: _____

5 The triangle is isosceles. Find x .



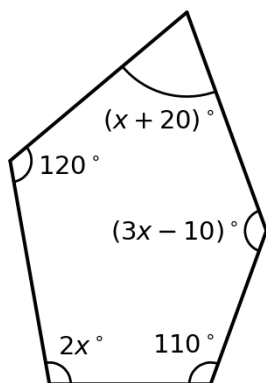
Answer: _____

6 $AB = AC$ and BCD is a straight line. Find x , giving reasons.



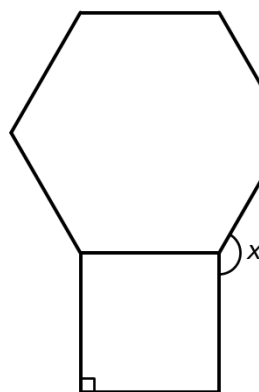
Answer: _____

7 Find x .



Answer: _____

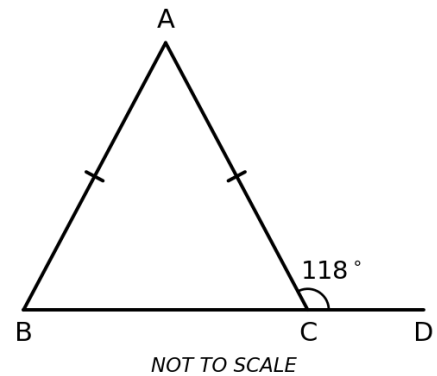
8 The diagram shows a regular hexagon and a square. Find x .



Answer: _____

Part 2 · Exam-style questions (9 marks)

- 1** Angles 3 · Angles in triangles and quadrilaterals
ABC is an isosceles triangle with $AB = AC$.
BCD is a straight line.



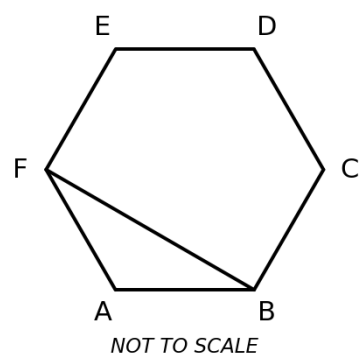
- (a)** Find angle ACB.

Angle ACB = [1]

- (b)** Find angle BAC. Give reasons for your answer.

Angle BAC = [3]

- 2** Angles 4 · Angles in polygons
ABCDEF is a regular hexagon.



- (a)** Find the size of one interior angle of the hexagon.

..... [1]

- (b)** Find angle ABF. Give reasons for your answer.

Angle ABF = [2]

- (c)** Show that angle FBC = 90° .

[2]

Answers · Part 1

- 1 $x = 40$; each angle $= 105^\circ$
- 2 $x = 42$; angle DOB $= 84^\circ$
- 3 $4x - 20 = 2x + 30$, so $x = 25$; each angle $= 80^\circ$
- 4 $x = 35 + 50 = 85^\circ$ (alternate angles, using the line through E parallel to AB)
- 5 $2(2x + 10) + 64 = 180$, so $x = 24$ (base angles are 58°)
- 6 Angle ACB $= 68^\circ$ (base angles of an isosceles triangle); $x = 180 - 68 = 112^\circ$ (angles on a straight line)
- 7 $2x + 110 + (3x - 10) + (x + 20) + 120 = 540$, so $6x = 300$ and $x = 50$
- 8 $x = 360 - 120 - 90 = 150^\circ$ (angles at a point; hexagon angle 120° , square angle 90°)

Mark scheme · Part 2

M = method mark · A = accuracy mark (depends on the M mark before it) · B = independent mark

Question 1 [4 marks]

- | | |
|--|-----------|
| (a) $180 - 118 = 62^\circ$ (angles on a straight line) | B1 |
| (b) Angle ABC $= 62^\circ$ (base angles of an isosceles triangle are equal) | B1 |
| Angle BAC $= 180 - 62 - 62$ | M1 |
| $= 56^\circ$ | A1 |

Note: The isosceles reason must be stated for the first B1 in (b). Accept 'base angles of isos. triangle'.

Question 2 [5 marks]

- | | |
|--|-----------|
| (a) 120° | B1 |
| (b) AB = AF (sides of a regular hexagon), so triangle ABF is isosceles;
$(180 - 120) \div 2$ | M1 |
| Angle ABF $= 30^\circ$ | A1 |
| (c) Angle FBC = angle ABC - angle ABF $= 120 - 30$ | M1 |
| $= 90^\circ$ | A1 |

Note: (b) needs the isosceles reason. (c) is 'show that': the subtraction must be seen, with no errors.

Liked these questions?

Get the full Angles pack

Four complete sections, each with:

- A **15-question graded drill set**, from one-step questions to multi-step reasoning, with answers
- A **20-mark exam-style set** written in the Cambridge 0580 style
- A **full mark-scheme answer key** with complete working and M, A and B marks

Sections:

- **Angles 1** · Angles at a point, on a line, vertically opposite
- **Angles 2** · Angles and parallel lines
- **Angles 3** · Angles in triangles and quadrilaterals
- **Angles 4** · Angles in polygons

That is **60 drill questions** and **80 exam marks**: 12 print-ready PDFs.

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