Angles topic test

12 questions | 22 marks | 30 minutes

Missing-angle problems with clear diagrams and reasons.

Equivalent correct methods earn the corresponding marks.

1. How many degrees are in a straight angle? [1 mark]

A straight angle is a half-turn.

Answer: 180°

2. How many degrees are in a full turn around a point? [1 mark]

A full turn returns to the starting direction.

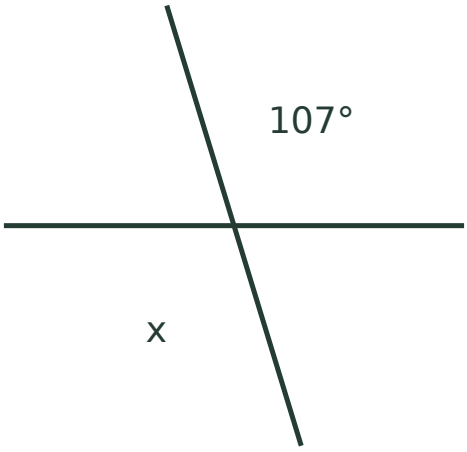
Answer: 360°

3. Two adjacent angles form a straight line. One is 118°. Find the other. [1 mark]

180° − 118° = 62°.

Answer: 62°

4. Two lines cross. One angle is 107°. Find its vertically opposite angle. [1 mark]

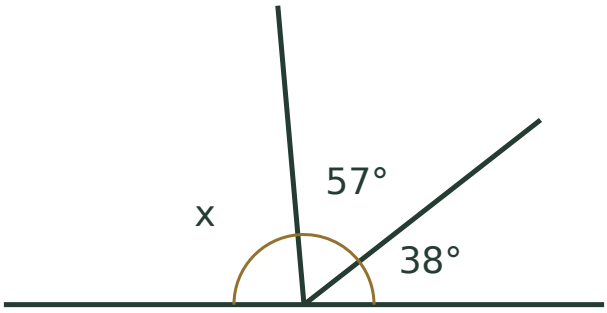


Two intersecting straight lines

Vertically opposite angles are equal.

Answer: 107°

5. A straight angle has parts 38°, 57° and x. Find x. [2 marks]



Adjacent angles on a straight line

38 + 57 = 95.

180 − 95 = 85.

Answer: 85°

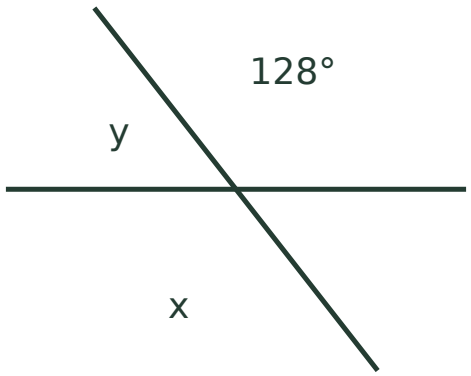
6. Angles around a point are 110°, 95° and x. Find x. [2 marks]

110 + 95 = 205.

360 − 205 = 155.

Answer: 155°

7. Two straight lines cross. One angle is 128°. Find its opposite angle and one adjacent angle. Give a reason for each. [3 marks]



Two intersecting straight lines

Opposite angles are equal.

Adjacent angles form 180°, so 180 − 128 = 52.

Answer: Opposite 128°; adjacent 52°.

8. A right angle is split into 34° and x. Find x. [1 mark]

90° − 34° = 56°.

Answer: 56°

9. A full turn is split into one 96° angle and two equal angles. Find each equal angle. [2 marks]

360 − 96 = 264.

264 ÷ 2 = 132.

Answer: 132°

10. Four angles around a point are 64°, 88°, 103° and x. Find x and check. [3 marks]

64 + 88 + 103 = 255.

360 − 255 = 105.

64 + 88 + 103 + 105 = 360.

Answer: 105°

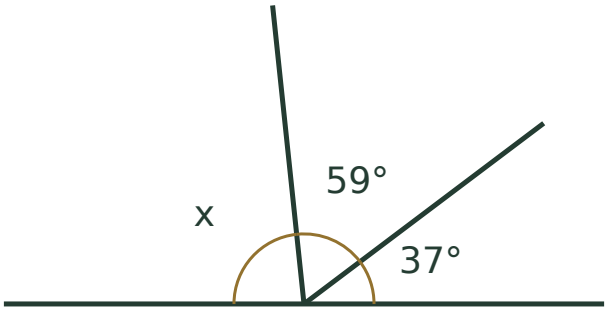
11. Ella says that a 109° angle has an 81° neighbour on a straight line. Explain the error and find the correct neighbour. [2 marks]

Straight-line parts must total 180°.

180° − 109° = 71°.

Answer: 109 + 81 = 190, so the angle labels cannot be right. The neighbour is 71°.

12. The diagram shows three parts of a straight angle: 37°, 59° and x. Find x. Write a reason and a check. [3 marks]



Adjacent angles on a straight line

37° + 59° = 96°.

x = 180° − 96° = 84° because the parts form a straight angle.

37° + 59° + 84° = 180°.

Answer: x = 84°