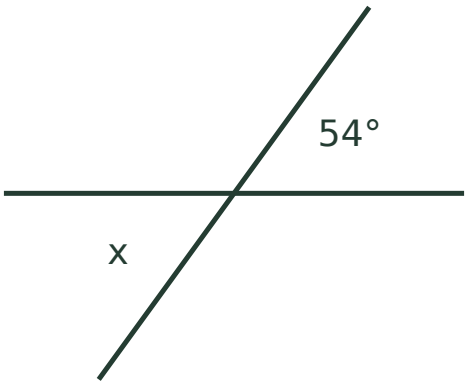
Vertically opposite angles

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. Find x in the crossing shown. [1 mark]



Two intersecting straight lines

x is vertically opposite the 54° angle, so x = 54°.

Answer: 54°

2. Two lines cross. One angle is 105°. Find an adjacent angle. [1 mark]

180° − 105° = 75°.

Answer: 75°

3. At a crossing one angle is 38°. List all four angles in order around the point. [2 marks]

An adjacent angle is 180° − 38° = 142°.

Opposite pairs are equal.

Answer: 38°, 142°, 38°, 142° (starting at the given angle)

4. One angle at a crossing is 90°. What are the other three? Explain. [2 marks]

The opposite angle equals 90°.

Each neighbour is 180° − 90° = 90°.

Answer: All are 90°.

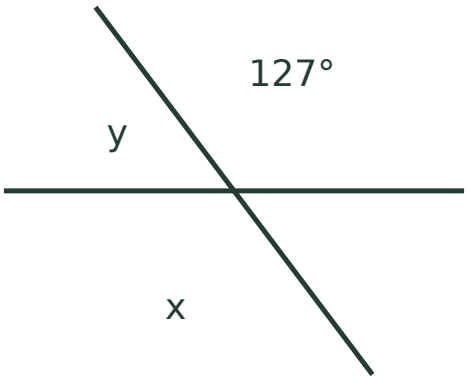
5. A crossing has adjacent angles marked 112° and 112°. Could both marks be correct? Explain. [2 marks]

Adjacent angles on the two straight lines must total 180°.

112° + 112° = 224°, not 180°.

Answer: No.

6. At an intersection, x is opposite 127° and y is next to 127°. Find x and y, giving a reason for each. [3 marks]



Two intersecting straight lines

x is vertically opposite 127°, so they are equal.

y forms a straight angle with 127°, so y = 180° − 127° = 53°.

Answer: x = 127°; y = 53°