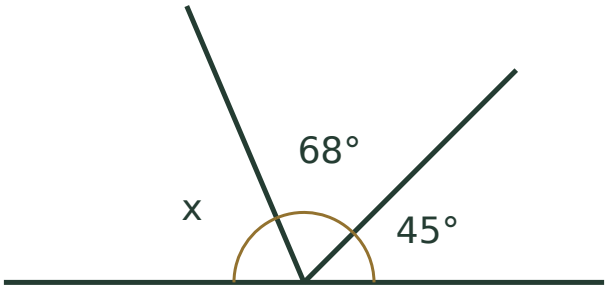
Reasoning about unknowns

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. A straight angle is divided into 45°, 68° and x. Find x. [2 marks]



Adjacent angles on a straight line

45 + 68 = 113.

180 − 113 = 67.

Answer: 67°

2. Four angles around a point are 50°, 75°, 95° and x. Find x. [2 marks]

50 + 75 + 95 = 220.

360 − 220 = 140.

Answer: 140°

3. Two lines cross. One angle is 132°. Find its opposite angle and an adjacent angle. [2 marks]

Opposite angles are equal.

180° − 132° = 48°.

Answer: Opposite 132°; adjacent 48°.

4. A right angle is divided into 29° and x. Find x. [1 mark]

A right angle is 90°.

90° − 29° = 61°.

Answer: 61°

5. A student says 115° and 75° are adjacent angles on a straight line. Explain the error and correct the second angle. [2 marks]

115° + 75° = 190°, not 180°.

180° − 115° = 65°.

Answer: Their total is 190°; the second angle should be 65°.

6. A full turn contains one angle of 80° and two equal angles. Find the equal angles and check your result. [3 marks]

360° − 80° = 280°.

280° ÷ 2 = 140°.

80° + 140° + 140° = 360°.

Answer: 140° each