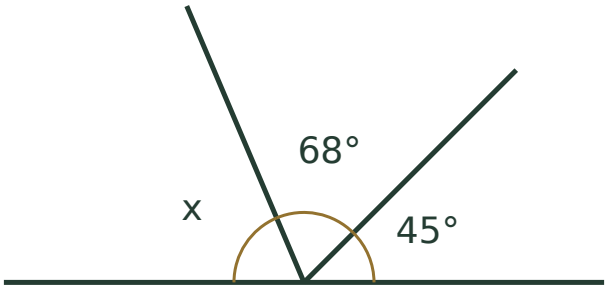
Reasoning about unknowns

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.

$180^\circ - 132^\circ = 48^\circ$.

Answer: Opposite 132°; adjacent 48°.

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

A right angle is 90°.

$90^\circ - 29^\circ = 61^\circ$.

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]

$115^\circ + 75^\circ = 190^\circ$, not 180°.

$180^\circ - 115^\circ = 65^\circ$.

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]

$360^\circ - 80^\circ = 280^\circ$.

$280^\circ \div 2 = 140^\circ$.

$80^\circ + 140^\circ + 140^\circ = 360^\circ$.

Answer: 140° each