Angles on lines and around points

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Two adjacent angles on a straight line are 148° and a. Find a. [2 marks]

$a = 180^\circ - 148^\circ = 32^\circ$.

Answer: 32°.

2. Four angles around a point are 85°, 110°, 74° and b. Find b. [2 marks]

$85 + 110 + 74 = 269$.

$b = 360^\circ - 269^\circ = 91^\circ$.

Answer: 91°.

3. Three equal adjacent angles fill a straight angle. Find the size of each. [2 marks]

Their total is 180°.

$180 \div 3 = 60$.

Answer: 60°.

4. An angle of 54° and angle c fill a right angle. Find c. [2 marks]

$c = 90^\circ - 54^\circ = 36^\circ$.

Answer: 36°.

5. A robot turns 135° clockwise, then continues clockwise until it has completed one full turn. How far is the second turn? [2 marks]

The full turn is 360°.

$360 - 135 = 225$. The second turn is reflex.

Answer: 225°.

6. Alex subtracts 72° from 360° to find the adjacent angle on a straight line. Explain the error and give the correct answer. [3 marks]

The outer arms form a straight line, not a full turn.

$180^\circ - 72^\circ = 108^\circ$.

Answer: The total should be 180 degrees; the missing angle is 108°.