# Angle reasoning consolidation

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

**1.** Two adjacent angles form a straight line. One is $136^\circ$. Find the other. [2 marks]

Adjacent angles on a line total $180^\circ$.

$180^\circ - 136^\circ = 44^\circ$.

**Answer:** $44^\circ$

**2.** Angles around a point are $85^\circ$, $140^\circ$ and $x$. Find $x$. [2 marks]

Angles around a point total $360^\circ$.

$360^\circ - 85^\circ - 140^\circ = 135^\circ$.

**Answer:** $135^\circ$

**3.** A triangle has angles $72^\circ$ and $49^\circ$. Find its third angle. [2 marks]

Triangle sum is $180^\circ$.

$180^\circ - 72^\circ - 49^\circ = 59^\circ$.

**Answer:** $59^\circ$

**4.** Two parallel lines are crossed by a transversal. An angle at the first crossing is $71^\circ$. Find its corresponding angle at the second crossing. [2 marks]

Corresponding angles in parallel lines are equal.

**Answer:** $71^\circ$

**5.** A quadrilateral has angles $88^\circ$, $97^\circ$, $104^\circ$ and $x$. Find $x$. [2 marks]

Its interior angles total $360^\circ$.

$360^\circ - 88^\circ - 97^\circ - 104^\circ = 71^\circ$.

**Answer:** $71^\circ$

**6.** Find one interior angle of a regular hexagon. Explain why division by 6 is valid. [3 marks]

The angle sum is $(6-2) \times 180^\circ = 720^\circ$.

Regular means all six angles are equal.

$720^\circ \div 6 = 120^\circ$.

**Answer:** $120^\circ$