

Geometry: 2D Shapes & Angles: Medium Practice Paper

1 Answers

Q#	Answer	Explanation
1	A	A pentagon splits into 3 triangles by drawing diagonals from one corner, and each triangle holds 180° . So the total is $3 \times 180^\circ = 540^\circ$.
2	C	The triangle is isosceles, so the two base angles are equal. They share $180^\circ - 40^\circ = 140^\circ$ between them, so $x = 140^\circ \div 2 = 70^\circ$.
3	E	The interior angles of a hexagon add up to $(6 - 2) \times 180^\circ = 720^\circ$. The hexagon is regular, so each angle is $720^\circ \div 6 = 120^\circ$.
4	B	The two angles lie on a straight line, so $x + 2x = 180^\circ$. That gives $3x = 180^\circ$, so $x = 60^\circ$.
5	B	The two marked angles are between the parallel lines on the same side of the slanted line, so they are co-interior and add up to 180° . That gives $x = 180^\circ - 108^\circ = 72^\circ$.
6	D	The small square is a right angle of 90° . Angles around a point add up to 360° , so $x = 360^\circ - 90^\circ - 145^\circ = 125^\circ$.
7	C	The exterior angles of any polygon add up to 360° . A regular pentagon has 5 equal exterior angles, so each is $360^\circ \div 5 = 72^\circ$.
8	B	Turning the rectangle all the way round, it looks exactly the same twice: after a half turn and after a full turn. So the order is 2.
9	D	Call the smaller angle x , so the larger is $4x$. On a straight line $x + 4x = 180^\circ$, so $5x = 180^\circ$ and $x = 36^\circ$.
10	B	At 4:30 the minute hand points at 6. The hour hand has moved half way from 4 to 5, so it sits $1\frac{1}{2}$ hour marks from the 6. Each mark is 30° , so the angle is $1\frac{1}{2} \times 30^\circ = 45^\circ$.
11	B	The angles of a quadrilateral add up to 360° . Here $85^\circ + 95^\circ + 100^\circ = 280^\circ$, so the fourth angle is $360^\circ - 280^\circ = 80^\circ$.

12	E	Use $(n - 2) \times 180^\circ$ with $n = 8$: $(8 - 2) \times 180^\circ = 6 \times 180^\circ = 1080^\circ$.
13	A	The triangle is isosceles, so both base angles are 65° . The angles add up to 180° , so $x = 180^\circ - 65^\circ - 65^\circ = 50^\circ$.
14	D	The angle matching the 65° one at the lower crossing is also 65° (corresponding angles). Angle x sits next to it on a straight line, so $x = 180^\circ - 65^\circ = 115^\circ$.
15	C	The ratio has $1 + 2 + 3 = 6$ parts sharing 180° , so one part is 30° . The largest angle is 3 parts, which is $3 \times 30^\circ = 90^\circ$.