Geometry: 2D Shapes & Angles: Medium Practice Paper 4 Answers

Q#	Answer	Explanation
1	E	Use (n − 2) × 180° with n = 9: (9 − 2) × 180° = 7 × 180° = 1260°.
2	B	The triangle is isosceles, so both base angles are 72°. The angles add up to 180°, so x = 180° − 72° − 72° = 36°.
3	E	The interior angles add up to (10 − 2) × 180° = 1440°. The decagon is regular, so each angle is 1440° ÷ 10 = 144°.
4	C	The two angles lie on a straight line, so x + (x + 40°) = 180°. That gives 2x = 140°, so x = 70°.
5	A	The two marked angles are co-interior: they lie between the parallel lines on the same side of the slanted line, so they add up to 180°. That gives 4x + 2x = 180°, so 6x = 180° and x = 30°.
6	C	The square marks a right angle of 90°. Angles around a point add up to 360°, so x = 360° − 90° − 130° = 140°.
7	D	The exterior angles add up to 360°. A regular decagon has 10 of them, so each is 360° ÷ 10 = 36°.
8	B	A parallelogram has no lines of symmetry, but a half turn lands it back on itself. Counting that and the full turn gives order 2.
9	B	Angles on a straight line add up to 180°, so x + 2x + 3x = 180°. That gives 6x = 180°, so x = 30°.
10	D	At 10:30 the minute hand points at 6. The hour hand is half way between 10 and 11, so it is 4½ hour marks from the 6. Each mark is 30°, so the angle is 4½ × 30° = 135°.
11	A	The ratio has 2 + 3 + 4 = 9 parts sharing 180°, so one part is 20°. The smallest angle is 2 parts: 2 × 20° = 40°.
12	B	Using (n − 2) × 180° = 900°, divide both sides by 180° to get n − 2 = 5, so n = 7.

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13	D	Angle x and the 72° angle sit next to each other on a straight line, so they add up to 180°. That gives x = 180° − 72° = 108°.
14	B	In a parallelogram two angles next to each other lie between a pair of parallel sides, so they add up to 180°. That gives x = 180° − 115° = 65°.
15	C	A rhombus has 4 equal sides, and only its two diagonals are lines of symmetry. A square also has 4 equal sides but has 4 lines of symmetry.

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