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

Q#	Answer	Explanation
1	A	Use (n − 2) × 180° with n = 6: (6 − 2) × 180° = 4 × 180° = 720°.
2	C	The triangle is isosceles, so both base angles are 50°. The three angles add up to 180°, so x = 180° − 50° − 50° = 80°.
3	D	The interior angles add up to (8 − 2) × 180° = 1080°. The octagon is regular, so each angle is 1080° ÷ 8 = 135°.
4	C	Angles around a point add up to 360°, so 2x + 3x + 4x = 360°. That gives 9x = 360°, so x = 40°.
5	E	The two marked angles are on opposite sides of the slanted line and between the parallel lines. Alternate angles like these are equal, so x = 115°.
6	B	The small square is 90°. The angles lie on a straight line, so 90° + x + 2x = 180°. That gives 3x = 90°, so x = 30°.
7	A	The exterior angles of any polygon add up to 360°. A regular octagon has 8 of them, so each is 360° ÷ 8 = 45°.
8	D	A regular polygon looks the same as many times in a full turn as it has sides. A regular pentagon has 5 sides, so its order of rotational symmetry is 5.
9	E	Angles around a point add up to 360°. The ratio has 1 + 5 = 6 parts, so one part is 360° ÷ 6 = 60°. The larger angle is 5 parts: 5 × 60° = 300°.
10	C	At 7:30 the minute hand points at 6. The hour hand is half way between 7 and 8, which is 1½ hour marks from the 6. Each mark is 30°, so the angle is 45°.
11	B	The angles of a quadrilateral add up to 360°. Here 110° + 75° + 60° = 245°, so the fourth angle is 360° − 245° = 115°.

12	B	Use (n − 2) × 180° with n = 7: (7 − 2) × 180° = 5 × 180° = 900°.
13	C	The third angle is 180° − 40° − 75° = 65°. The exterior angle sits next to it on a straight line, so it is 180° − 65° = 115°. (This matches the rule that an exterior angle equals the two opposite interior angles added: 40° + 75° = 115°.)
14	D	The two squares mark right angles of 90° each. The angles of a quadrilateral add up to 360°, so x = 360° − 60° − 90° − 90° = 120°.
15	C	A rectangle has equal diagonals but they do not meet at right angles. A rhombus has diagonals that cross at right angles but they are not equal. Only the square has both.