

Geometry: 2D Shapes & Angles: Medium Practice Paper

5 Answers

Q#	Answer	Explanation
1	A	Using $(n - 2) \times 180^\circ = 1080^\circ$, divide both sides by 180° to get $n - 2 = 6$, so $n = 8$.
2	D	The triangle is isosceles, so the two base angles are equal. They share $180^\circ - 34^\circ = 146^\circ$, so $x = 146^\circ \div 2 = 73^\circ$.
3	E	The minute hand goes all the way round, 360° , in 60 minutes. In 20 minutes it turns one third of that: $360^\circ \div 3 = 120^\circ$.
4	B	The angles lie on a straight line, so $5x + 4x = 180^\circ$. That gives $9x = 180^\circ$, so $x = 20^\circ$.
5	D	The two marked angles are on opposite sides of the slanted line, one above the top parallel line and one below the bottom one. They are alternate angles, so they are equal and $x = 117^\circ$.
6	C	The square marks a right angle of 90° . Angles around a point add up to 360° , so $x = 360^\circ - 155^\circ - 90^\circ = 115^\circ$.
7	C	The exterior angle is $180^\circ - 150^\circ = 30^\circ$. Exterior angles add up to 360° , so the number of sides is $360^\circ \div 30^\circ = 12$.
8	C	Turning the triangle by a third of a turn lands it back on itself, and this happens 3 times in a full turn, so the order is 3.
9	B	Vertically opposite angles are equal, so $3x = 75^\circ$. Dividing both sides by 3 gives $x = 25^\circ$.
10	B	The minute hand is at 4, which is 120° from the 12. The hour hand is a third of the way past 8, at $8 \times 30^\circ + 10^\circ = 250^\circ$. The gap between them is $250^\circ - 120^\circ = 130^\circ$.
11	E	The ratio has $1 + 2 + 3 + 4 = 10$ parts sharing 360° , so one part is 36° . The largest angle is 4 parts: $4 \times 36^\circ = 144^\circ$.

12	C	A polygon with n sides splits into $n - 2$ triangles this way. A hexagon has 6 sides, so it makes 4 triangles – which is why its angles add up to $4 \times 180^\circ = 720^\circ$.
13	B	The two squares mark right angles of 90° each. The angles of a quadrilateral add up to 360° , so $x = 360^\circ - 90^\circ - 90^\circ - 120^\circ = 60^\circ$.
14	D	The interior angles add up to $(9 - 2) \times 180^\circ = 1260^\circ$. The nonagon is regular, so each angle is $1260^\circ \div 9 = 140^\circ$.
15	C	A trapezium has just one pair of parallel sides. In the square, rhombus, parallelogram and rectangle both pairs of opposite sides are parallel.