Test answers - Angles, shapes and symmetry

Year: Year 4 · Duration: 35 minutes · /20

Answer to Question 1 (4 marks)

a. Compare each angle with a right angle. The first is smaller than a right angle, so it is **acute** (about 35°). The second is a square corner, a **right angle** (90°). The third is bigger than a right angle but less than a straight line, so it is **obtuse** (about 140°) (3 marks: 1 for each).
b. A quarter turn is a quarter of a full turn of 360°: 360° ÷ 4 = 90°. So the quarter turn is **the right angle** (1 mark).

Answer to Question 2 (4 marks)

a. Two sides are equal (6 cm and 6 cm) and the third is different, so the triangle is **isosceles** (1 mark).
b. Hexa means six, so a hexagon has **6** sides; octa means eight, so an octagon has **8** sides (2 marks: 1 for each).
c. A regular pentagon has 5 equal sides of 7 cm. Perimeter = 5 × 7 = **35 cm** (1 mark).

Answer to Question 3 (4 marks)

a. A rectangle folds exactly in half across the middle and down the middle, so it has **2** lines of symmetry (1 mark).
b. A kite only folds onto itself along the line through its top and bottom corners: **1** line (1 mark).
c. An equilateral triangle has a line from each corner to the middle of the opposite side: **3** lines (1 mark).
d. **A square** has exactly 4 lines of symmetry: across, down and the two diagonals (1 mark). A regular quadrilateral is the same shape, so it also gets the mark.

Answer to Question 4 (4 marks)

a. At 5 o'clock the minute hand points to 12 and the hour hand to 5. There are 5 hour gaps between them, each 30°: 5 × 30° = **150°** (2 marks: 1 for counting 5 gaps, 1 for 150°).
b. 150° is more than a right angle (90°) but less than a straight line (180°), so it is an **obtuse** angle (1 mark).

c. A right angle is 90°, and 90° ÷ 30° = 3 hour gaps. So the hands make a right angle at **3 o'clock** (or 9 o'clock) (1 mark).

Answer to Question 5 (4 marks)

a. A regular hexagon has 6 equal sides of 10 cm: 6 × 10 = **60 cm** (1 mark).
b. A regular hexagon has as many lines of symmetry as sides: **6** lines (1 mark).
c. Each square adds 10 cm to the length: 30 × 10 = 300 cm. 100 cm = 1 m, so the row is **3 m** long (1 mark).
d. **Yes.** A square has 4 equal sides, so its perimeter is 4 × 10 = 40 cm, which matches the 40 cm given (1 mark).