

- 1 I am drawing straight-line graphs and I work out three co-ordinates on a line to be (1, 2), (2, 4) and (4, 5). Could I have made a mistake? Explain how you can tell?
- 2 I am building a wall and the number of bricks in each layer has 5 as a factor. Is it possible for me to have used 103 bricks in total? Explain your answer?
- 3 A square has co-ordinates of (2, 5) and (5, 5) for its base. What are its two other co-ordinates?
- 4 Two of the vertices of an isosceles triangle are (4, 5) and (7, 8). Find its third vertex.
- 5 I have four identical equilateral triangles whose sides each measure 5 cm. They are fitted together to make one large equilateral triangle. What is the perimeter of the new triangle?
- 6 Nine equilateral triangles each have a perimeter of 24 cm. They are fitted together to make one large equilateral triangle. What is the perimeter of the new larger triangle?
- 7 Six identical equilateral triangles have sides that measure 5 cm. They are fitted together to make one large regular hexagon. What is the perimeter of the new shape?
- 8 Imagine four squares of side 5 cm. These squares are fitted together to make one rectangle with adjacent sides different lengths. Calculate the perimeter of the new shape.
- 9 Sixteen squares each have a perimeter of 10 cm. They are fitted together to make one rectangle. Calculate the largest perimeter this rectangle could have.
- 10 Four regular octagons are fitted together by matching edges giving a square hole at the centre. What is the perimeter of this hole if the perimeter of each octagon is 24 cm?
- 11 The shape of a parallelogram is plotted. If two of the co-ordinates are (1, 1) and (6, 1) and the area is 10 cm^2 , what are the other two co-ordinates?
- 12 A white isosceles triangle has a base of 20 cm and a perpendicular height of 15 cm. A red square of 8 cm perimeter is placed over the triangle. Find the area of white not covered by the square?
- 13 The co-ordinates of the top right corner of three identical shapes are (3, 1), (6, 2), and (9, 3). If I plot a shape with the top right corner at (56, 18) can this also be identical? Explain.
- 14 Two right angled triangles have sides of 3 cm, 4 cm, and 5 cm. They are fitted together to make an isosceles triangle by matching the 3 cm sides. Find the perimeter of the isosceles triangle.
- 15 A pattern is made with coloured tiles. The pattern develops with these tiles: (1 blue, 2 red), (2 blue, 4 red), (3 blue, 6 red). Could (36 blue, 71 red) be in the pattern? How do you know?