

y6maths2 Hard

15 Difficult Worded Problems

Show all working out in the space provided.

Name: _____ Date: _____ Score: ____ / 15

Question 1:

A point is located 4 units right and 3 units up from the origin. What are its coordinates? If it moves 2 units left and 5 units down, what are its new coordinates?

Working out:

Question 2:

Plot the points A(2,3), B(5,3), C(5,6), D(2,6) and connect them in order. What shape is formed? Calculate its perimeter if each unit is 1 cm.

Working out:

Question 3:

A triangle has vertices at P(1,2), Q(7,2), and R(4,6). What is the area of this triangle? Show your method using the Cartesian plane.

Working out:

Question 4:

A square has one corner at (3,4) and side length 5 units. If the square is axis-aligned, list all four vertices. Then translate it 3 units left and 2 units up.

Working out:

Question 5:

Point M is at $(-3,5)$ and Point N is at $(4,-2)$. How many units does it take to travel from M to N if you can only move in horizontal and vertical directions?

Working out:

Question 6:

A rectangle has vertices at $(2,1)$, $(2,7)$, $(10,1)$, and $(10,7)$. What is its area? If you reflect it over the y -axis, what are the new coordinates of each vertex?

Working out:

Question 7:

A point has coordinates $(-5,-3)$. Name the quadrant it is in. If the point is reflected over the x -axis, where does it land? Then reflect over the y -axis.

Working out:

Question 8:

Two points $A(3,8)$ and $B(3,2)$ are plotted. What is the distance between them? If point C is exactly halfway, what are its coordinates?

Working out:

Question 9:

A line segment has endpoints (0,0) and (8,6). What is the length of the segment? Use the Cartesian plane to explain your working.

Working out:

Question 10:

An irregular shape has vertices at (2,2), (2,8), (6,8), (10,8), (10,2) and back to (2,2). Name the shape and calculate its total area.

Working out:

Question 11:

A point at (6,9) is rotated 90° clockwise around the origin. What are its new coordinates? If it is then rotated another 90° clockwise, where does it go?

Working out:

Question 12:

A parallelogram has vertices at (1,1), (4,3), (7,1), and (10,3). What is the length of its base and its height? Calculate its area.

Working out:

Question 13:

A map uses a scale where each unit represents 2 km. A journey goes from (2,3) to (8,15). How far is the actual journey in kilometres assuming the path is the straight-line distance? Round to 1 d.p.

Working out:

Question 14:

Plot the points: (-2,3), (0,7), (2,11), (4,15). Describe the pattern. If the pattern continues, what will be the coordinates of the 10th point?

Working out:

Question 15:

Point X is at (-2, -6), Point Y is at (4, -1). Find the midpoint. If a third point Z is added to make an isosceles triangle with XY as the base, give a possible coordinate for Z.

Working out:
