COORDINATES IN ALL 4 QUADRANTS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.	Plot (3, 4) (3, 4)	2.	Plot (-2, 5) (-2, 5)
3.	Plot (6, -1) (6, -1)	4.	Plot (-4, -7) (-4, -7)
5.	Plot (0, -8) (0, -8)	6.	Reflect (5, 3) in the (5, -3) x-axis
7.	Reflect (-3, 6) in the (3, 6) y-axis	8.	Reflect (4, -2) in the (-4, 2) origin
9.	Rotate (7, 0) 90° clockwise about origin	10.	Rotate (-5, -1) 180° (5, 1) about origin
11.	Translate (2, -3) by (-2, 2) vector (-4, 5)	12.	Translate (-6, 8) by (-3, -2) vector (3, -10)
13.	Find midpoint of (1, (5, 4) 2) and (9, 6)	14.	Find midpoint of (-3, (1, 3) 7) and (5, -1)
15.	Calculate distance 10 between (0, 0) and (6, 8)	16.	Calculate $\sqrt{52 \text{ or } 2\sqrt{13}}$ distance between (-2, 3) and (4, -1)
17.	Which quadrant Contains (-7, -9)?	18.	Which quadrant contains (8, -5)?

19.	Reflect (-1, -4) in y- axis then x-axis (1, 4)	20.	Rotate (0, 9) 270° clockwise about origin
21.	Translate (10, -10) (0, 0) by vector (-10, 10)	22.	Find midpoint of (-10, 0) and (10, 0) (0, 0)
23.	Calculate distance 13 between (-5, -12) and origin	24.	Reflect $(3, -8)$ in x- axis then rotate 180° (3, -8)
25.	Rotate (4, 3) 90° anticlockwise about (-3, 4) origin	26.	Translate (-9, 7) by (0, 0) vector (9, -7)
27.	Find midpoint of (-8, -6) and (2, 4) (-3, -1)	28.	Calculate distance 5 between (1, 1) and (-2,
29.	Reflect origin in x- (0, 0) axis	30.	-3) Rotate (-10, 0) 360° (-10, 0) about origin

MASTER QUESTIONS

M1.	A ship moves from (-3, 4) to (7, -2). Calculate the displacement vector.
M2.	Point A at (5, -3) reflects in y-axis to point B. What are B's (-5, -3) coordinates?
M3.	The midpoint of AB is (1, 1). If A is (-2, 4), find B's (4, -2) coordinates.
M4.	A triangle has vertices at (0, 0), (6, 0), and (3, 8). Calculate its perimeter. $10 + 10 + \sqrt{68} \approx 28.246$
M5.	Point P (2, 7) is rotated 90° anticlockwise about origin to Q. (-7, 2) What are Q's coordinates?
M6.	A rectangle's corners are at (-4, 2), (5, 2), (5, -3), and (-4, -3). Find its area.

- M7. From start point (-1, -1), a drone flies 3 units left and 9 units down. Give its new coordinates.
- M8. Points (3, k) and (k, -5) are equidistant from origin. Find possible k values. $k = \sqrt{15}$ or $k = -\sqrt{15}$
- M9. Reflect point (8, -6) in the line y = x. State the image (-6, 8) coordinates.

M10. A path runs straight from A(-7, 2) to B(3, 10). How many units long is the path? $\sqrt{(10^2 + 8^2)} = \sqrt{164} \approx 12.806$