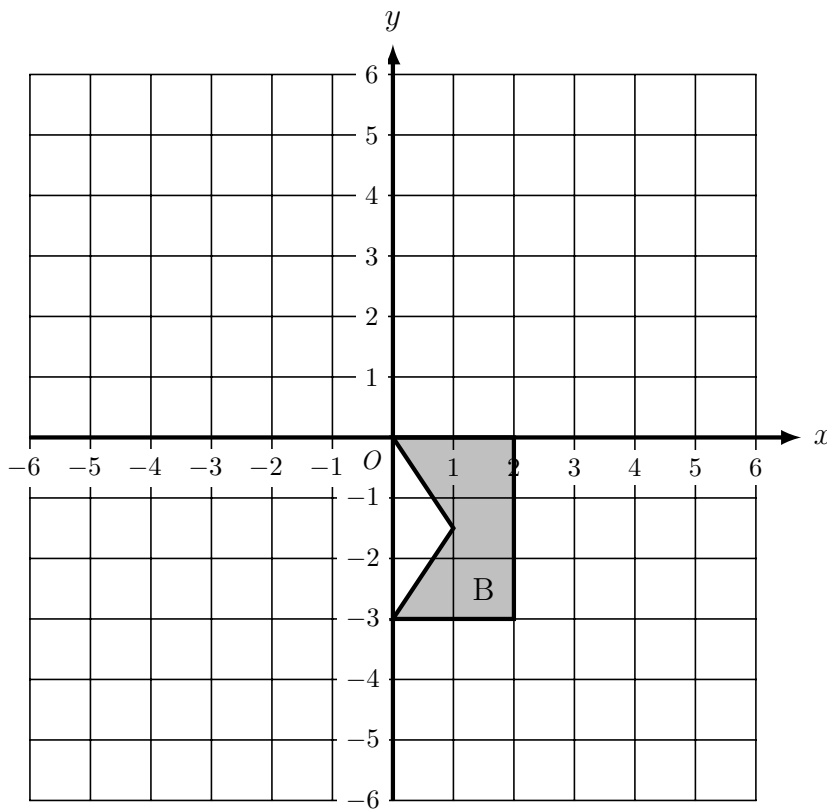


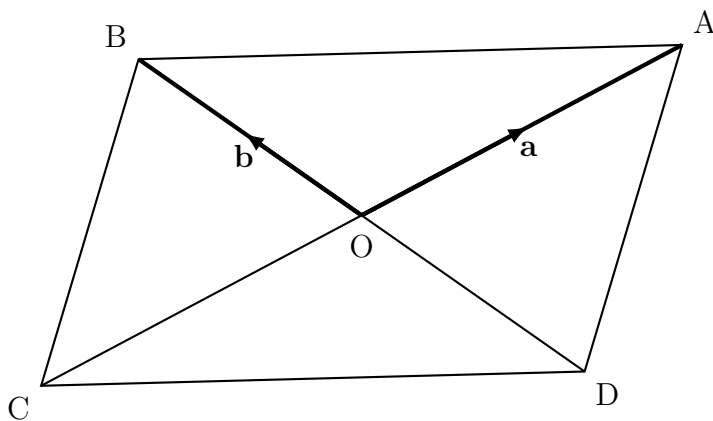
1. On the grid below, translate shape B by the vector $\begin{bmatrix} 4 \\ 3 \end{bmatrix}$ and label it C



top left at (4 , 3)

FYI: *translate in one dimension correctly (M1)*

2. The diagram below shows parallelogram ABCD



The diagonals of the parallelogram intersect at O

$\vec{OA} = \mathbf{a}$ {Handwriting **bold** is hard to do so mathematicians write a instead of **a**}

$\vec{OB} = \mathbf{b}$ {and write b instead of **b**}

Write an expression, in terms of **a** and **b** for

(i) $\vec{CA} = \dots\dots\dots$

(ii) $\vec{DO} = \dots\dots\dots$

(i) 2a (ii) b

$$3. \quad \mathbf{a} = \begin{pmatrix} 2 \\ -1 \end{pmatrix} \quad \mathbf{b} = \begin{pmatrix} -2 \\ 3 \end{pmatrix}$$

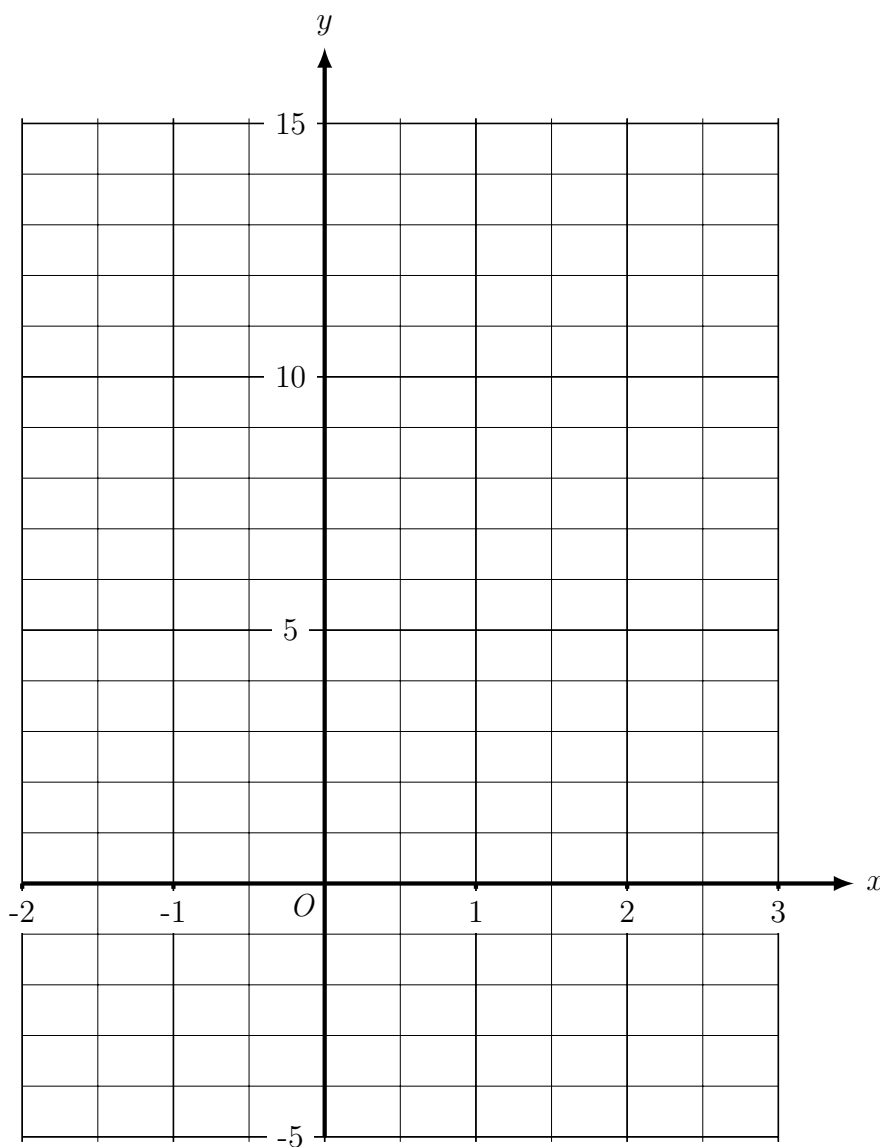
Work out $2\mathbf{a} + 3\mathbf{b}$ as a column vector.

SPACE LEFT 4mm

$$\begin{pmatrix} \dots \\ \dots \end{pmatrix}$$

-2
7

4. On the grid, draw the line $y = 2x + 1$, for values of x from -2 to 3.



SPACE LEFT 4cm

Line $y = 2x + 1$ drawn from (-2, -3) to (3, 7)

FYI: 2 points plotted (M1) and no incorrect (M1)
 OR correct gradient (M1), correct $y_{intercept}$ (M1)
 OR line segment of line e.g. $0 \leq x \leq 3$ (SC2)

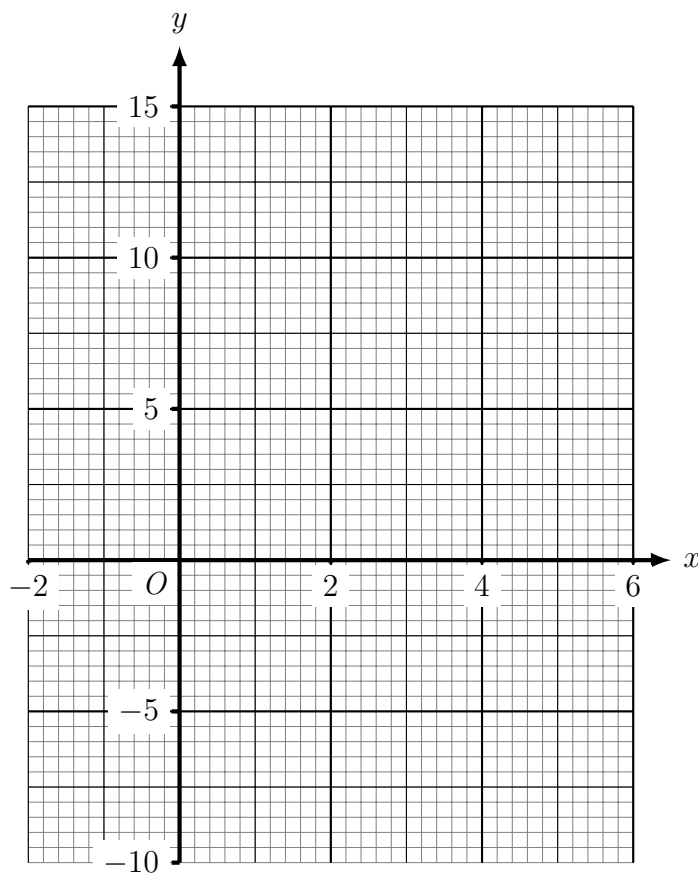
5. (a) Complete the table of values for $y = x^2 - 3x - 4$

x	-2	-1	0	1	2	3	4	5	6
y				-6				6	

6, 0, -4 ... -6, -4, 0 ... 14

FYI: 2 correct (M1)

- (b) On the grid below draw the graph of $y = x^2 - 3x - 4$ for values of x from -2 to 6



FYI: 4 points plotted (M1) all points and smooth-ish curve (A1)