1 Circle the vector that translates the point (–2, 7) to the point (3, –1)

[1 mark]

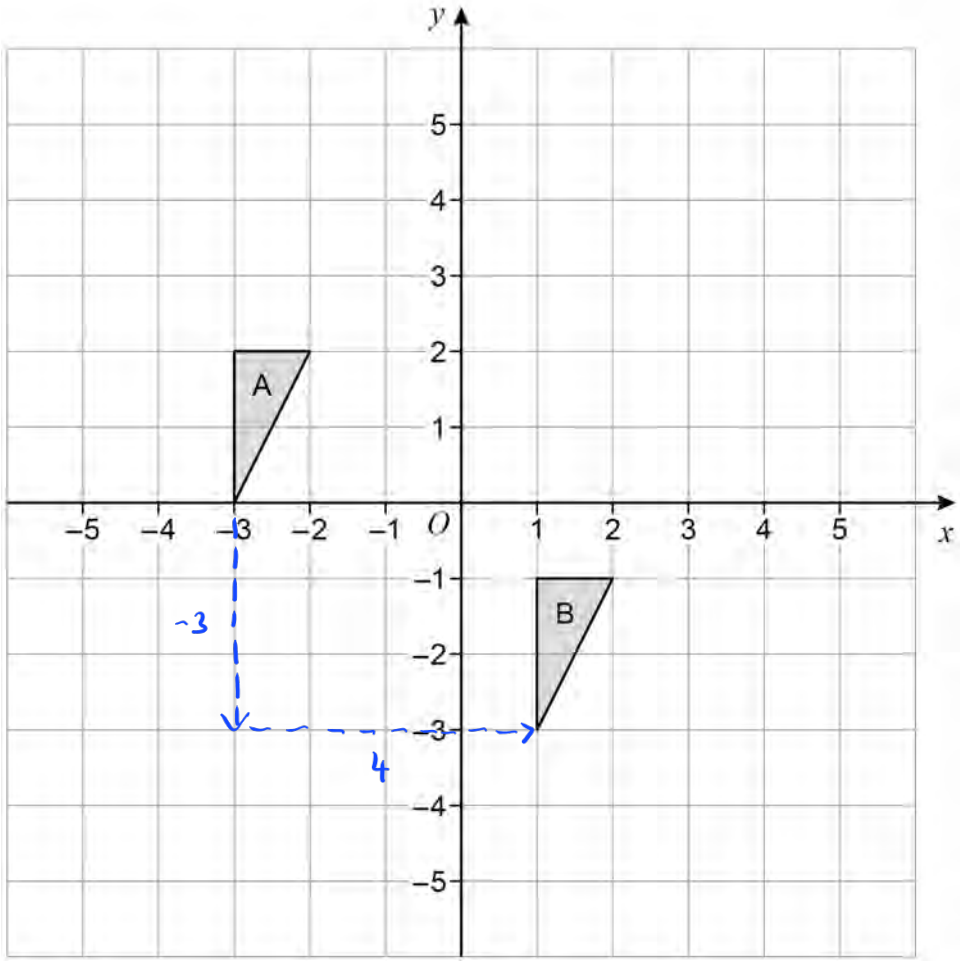
$\begin{bmatrix} 3-(-2) \\ -1-7 \end{bmatrix} = \begin{bmatrix} 5 \\ -8 \end{bmatrix}$

$\begin{pmatrix} 5 \\ -6 \end{pmatrix}$ $\begin{pmatrix} 5 \\ -8 \end{pmatrix}$ $\begin{pmatrix} -5 \\ 8 \end{pmatrix}$ $\begin{pmatrix} -5 \\ 6 \end{pmatrix}$

(1)

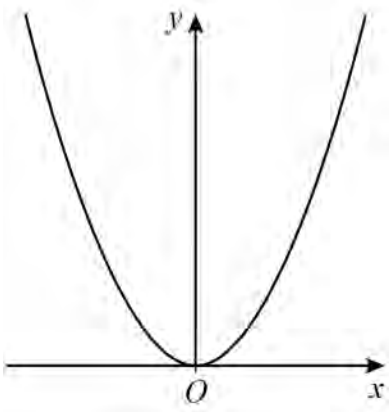
2 Write down the translation vector that maps shape A onto shape B.

[2 marks]



Answer $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$ (2)

3 Here is a sketch of $y = x^2$



3 (a) $y = x^2$ is now transformed to give $y = (x + 3)^2$

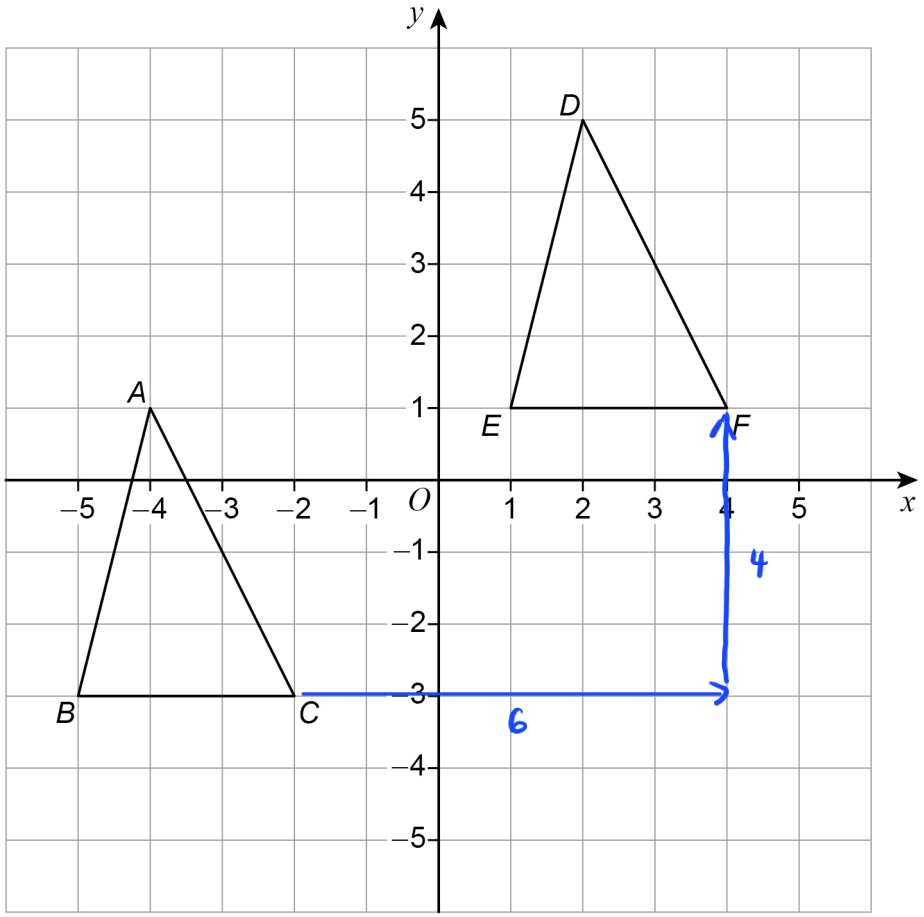
Describe fully this single transformation.

[2 marks]

Translation with vector $\begin{pmatrix} -3 \\ 0 \end{pmatrix}$

(1) (1)

4 Triangles *ABC* and *DEF* are shown on a grid.



Describe a single transformation that shows the triangles are congruent.

[2 marks]

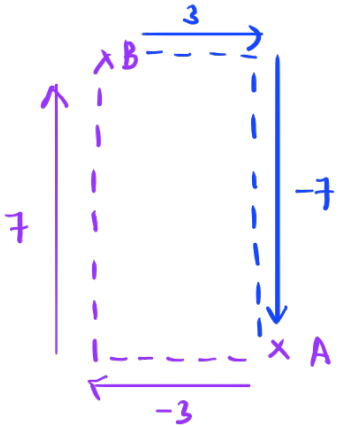
Translation of vector $\begin{pmatrix} 6 \\ 4 \end{pmatrix}$

(1) (1)

5 The vector $\begin{pmatrix} -3 \\ 7 \end{pmatrix}$ translates A to B.

Write down the vector that translates B to A.

[1 mark]



Answer $\begin{pmatrix} 3 \\ -7 \end{pmatrix}$ ✓0