4 The diagram shows a sketch of triangle **A** and triangle **B** on a coordinate grid.

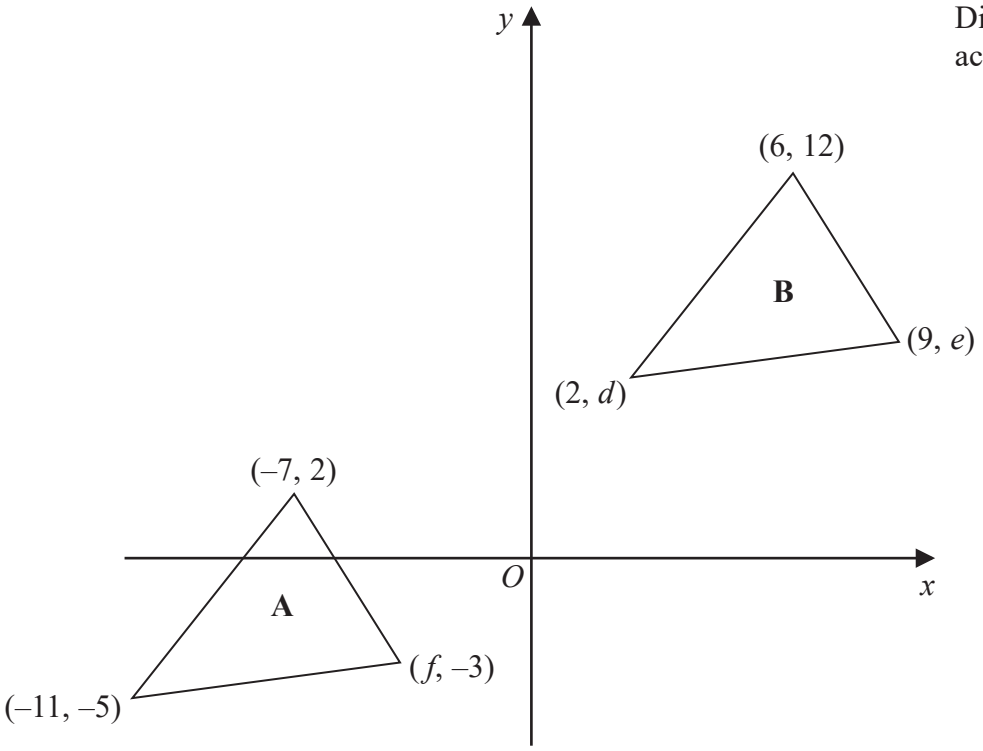


Diagram **NOT** accurately drawn

(a) Given that triangle **A** has been translated to give triangle **B**, work out the value of d, the value of e and the value of f

$d =$ .....

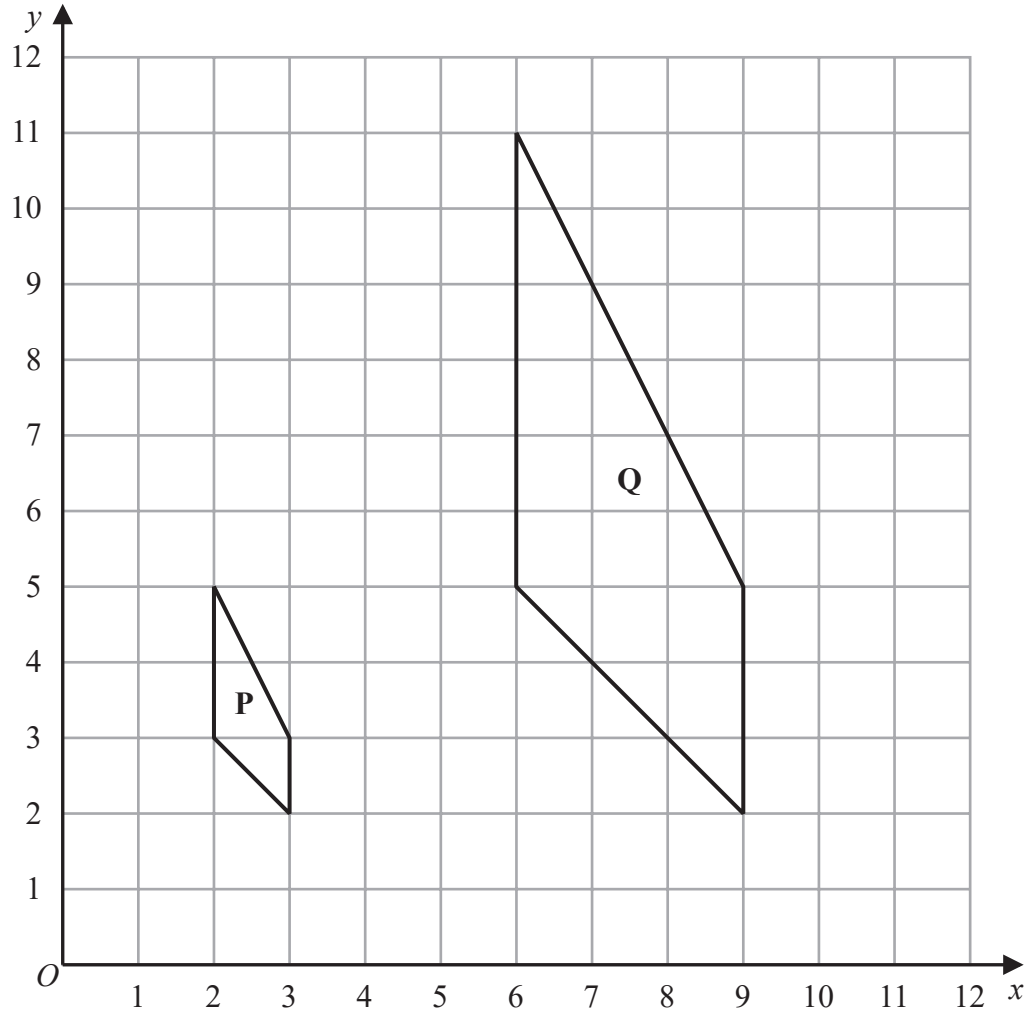
$e =$ .....

$f =$ .....

(3)

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The diagram shows shape **P** and shape **Q** drawn on a grid.



(b) Describe fully the single transformation that maps shape **P** onto shape **Q**

.....

.....

(3)

(c) On the grid above, rotate shape **P** 90° clockwise about (3, 5)
Label your shape **R**

(2)

(Total for Question 4 is 8 marks)

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