9 The grid opposite shows triangle *A*.

Triangle *A* is transformed to triangle *B* by a reflection in the line with equation $x = 1$

(a) On the grid, draw and label triangle *B*.

(2)

Triangle *B* is transformed to triangle *C* under the translation $\begin{pmatrix} 7 \\ -3 \end{pmatrix}$

(b) On the grid, draw and label triangle *C*.

(2)

Triangle *C* is transformed to triangle *D* under the transformation with matrix **M** where

$$\mathbf{M} = \begin{pmatrix} 2 & 0 \\ 0 & -2 \end{pmatrix}$$

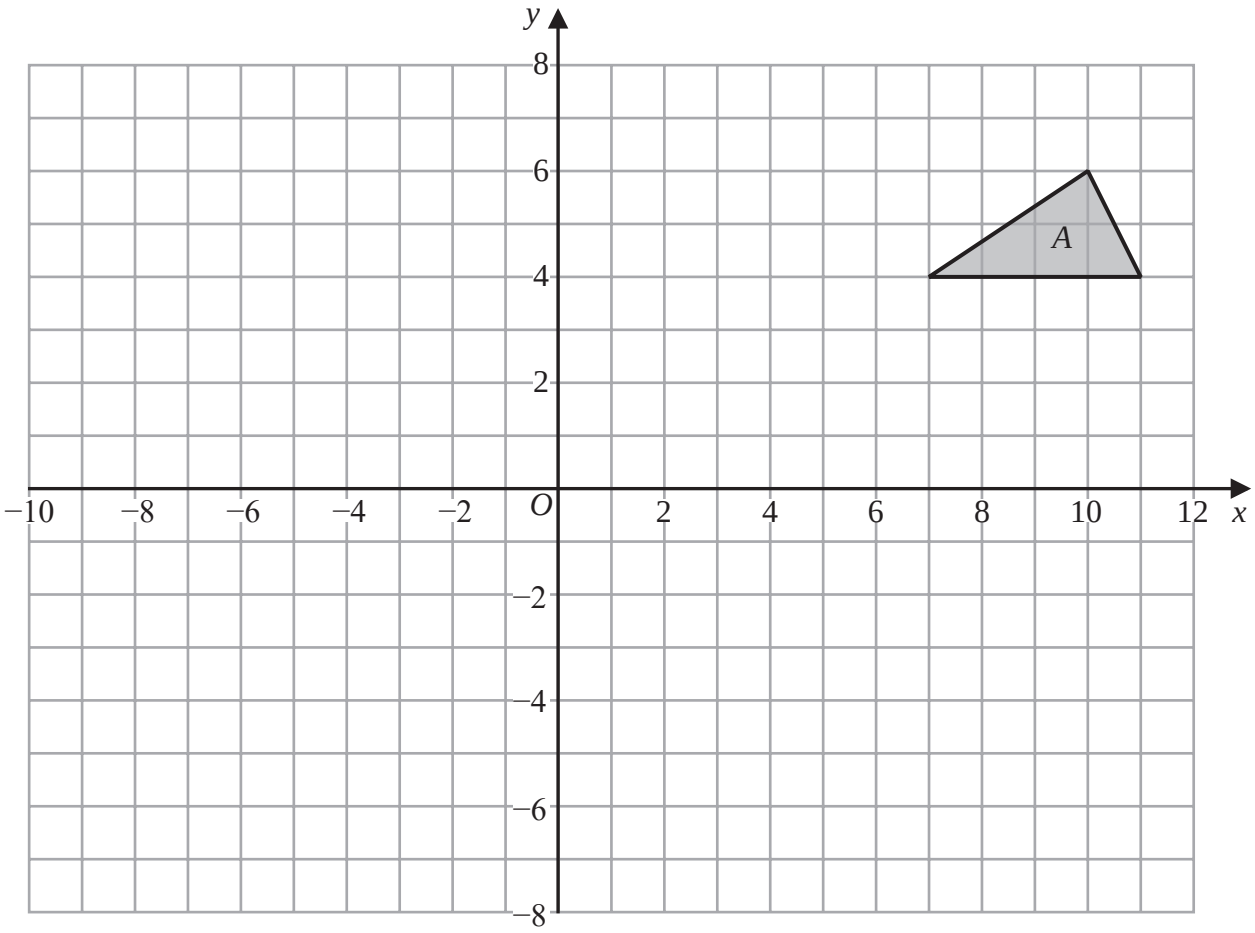
(c) On the grid, draw and label triangle *D*.

(3)

(d) Describe fully the **single** transformation that maps triangle *A* onto triangle *D*.

(3)

Question 9 continued

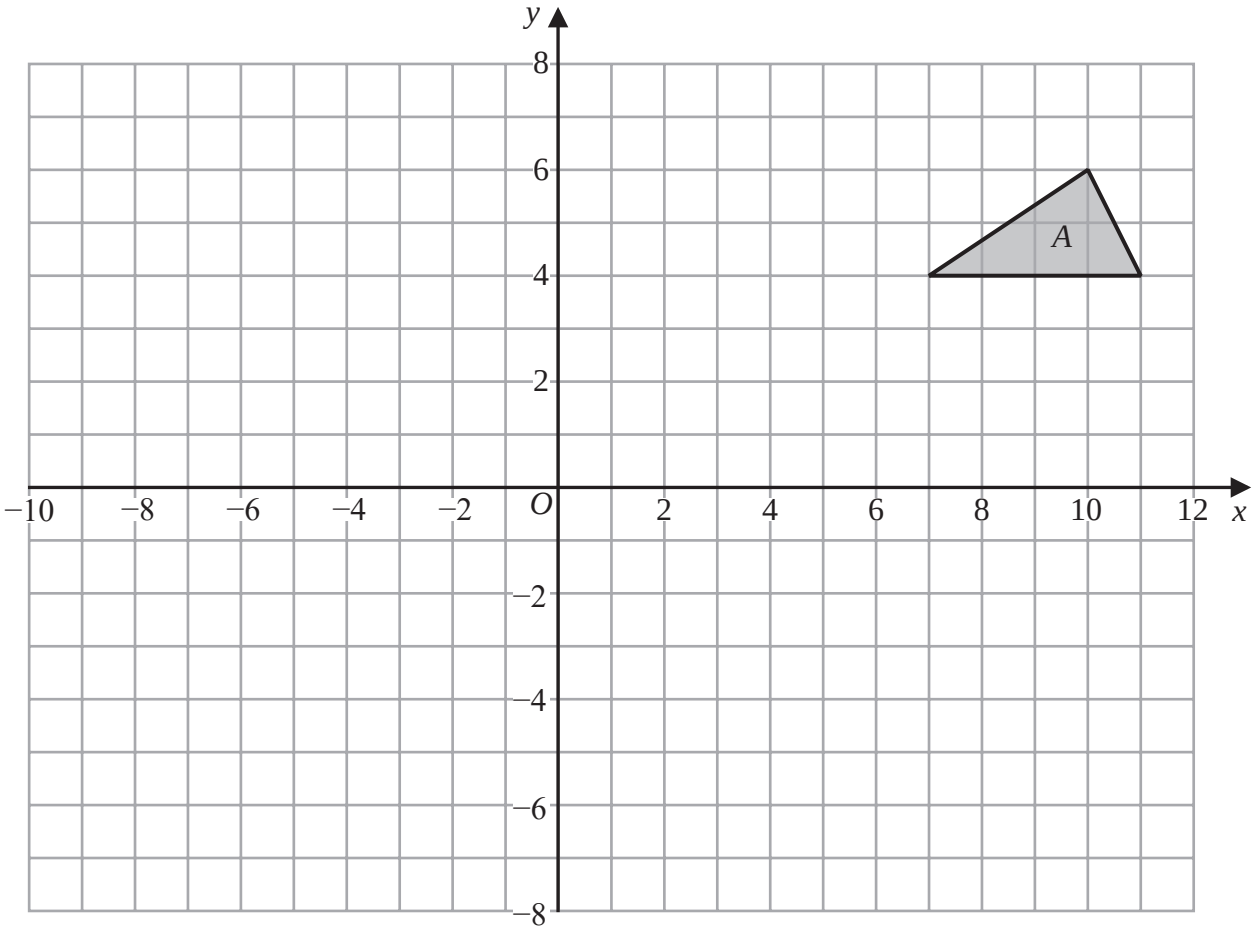


Turn over for a spare grid if you need to redraw your triangles.

Question 9 continued

Question 9 continued

Only use this grid if you need to redraw your triangles.



(Total for Question 9 is 10 marks)