3 Triangle *A* and triangle *B* are drawn on the grid opposite.

  (a) Describe fully the single transformation that maps triangle *A* onto triangle *B*

                                                                         (3)

  Triangle *A* is transformed to triangle *C* by a reflection in the line with equation $y = -1$

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

                                                                         (2)

  Triangle *A* is transformed to triangle *D* by an enlargement with centre (0, 3) and scale factor 2

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

                                                                         (2)

  Triangle *A* is transformed to triangle *E* under the transformation with matrix **M** where

$$\mathbf{M} = \begin{pmatrix} -2 & 1 \\ 0 & -2 \end{pmatrix}$$

  (d) On the grid, draw and label triangle *E*

                                                                          (3)
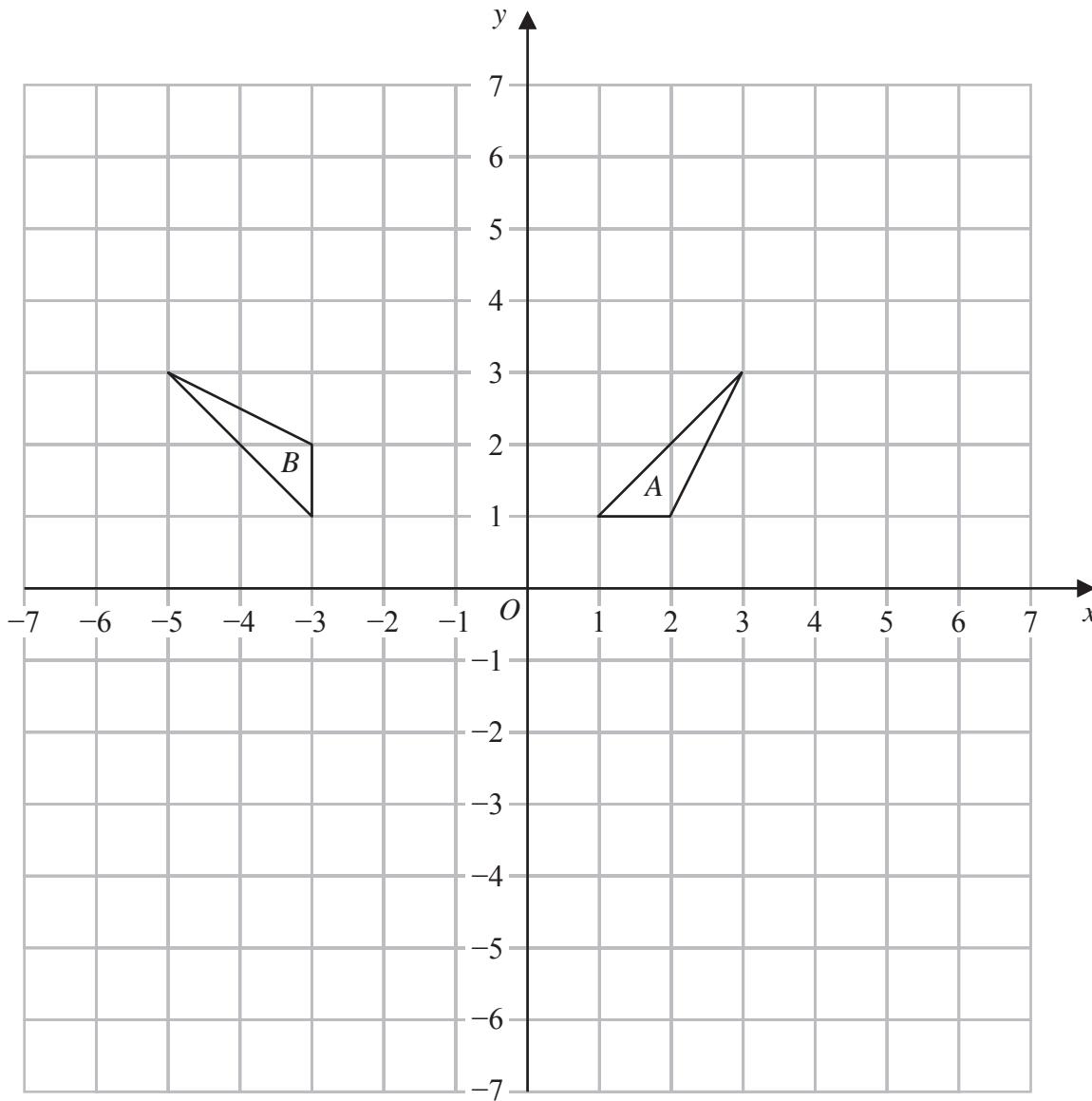
Question 3 continued

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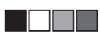
Turn over for a spare grid if you need to redraw your triangles.
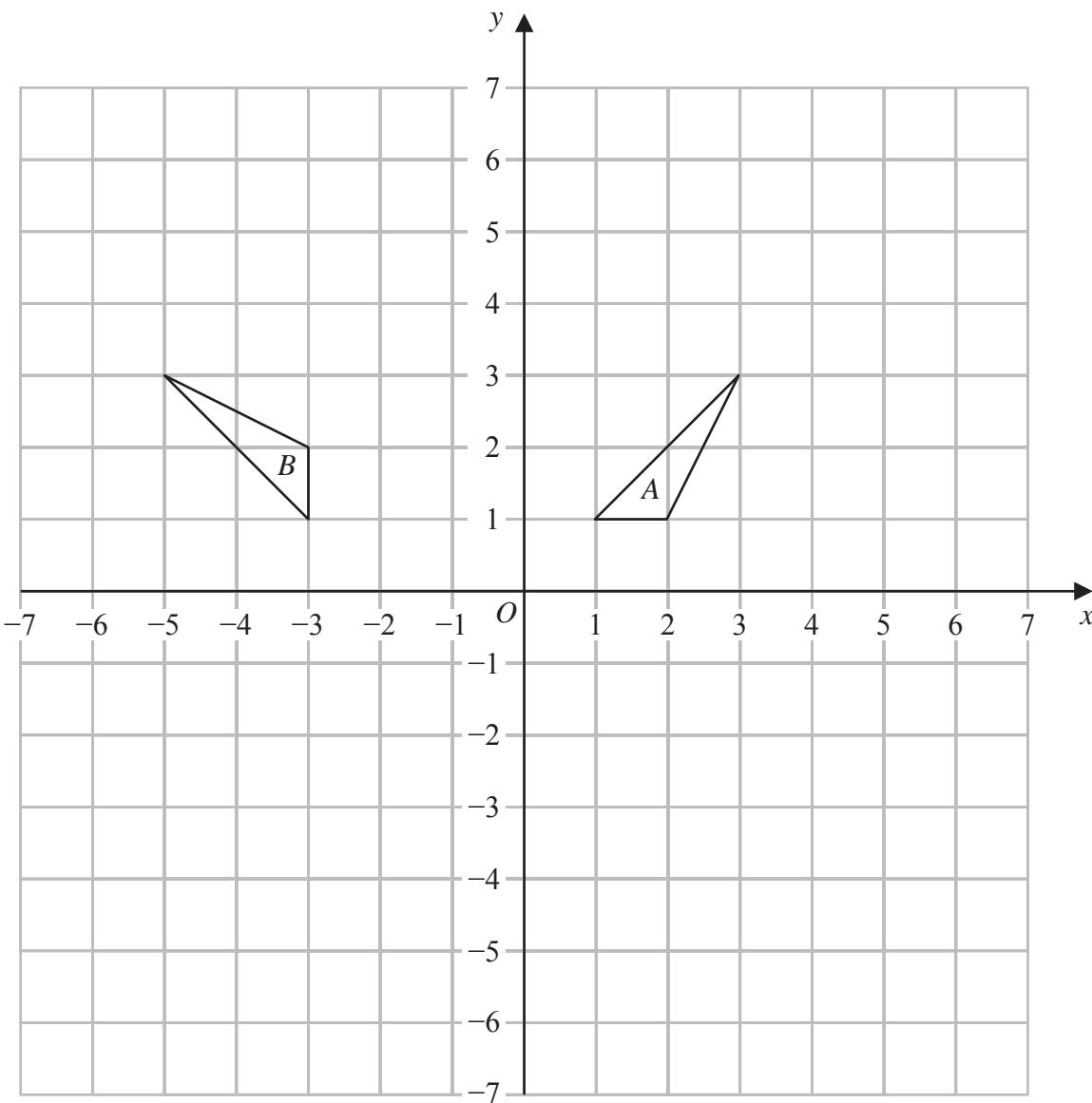
Question 3 continued

Question 3 continued

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

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(Total for Question 3 is 10 marks)