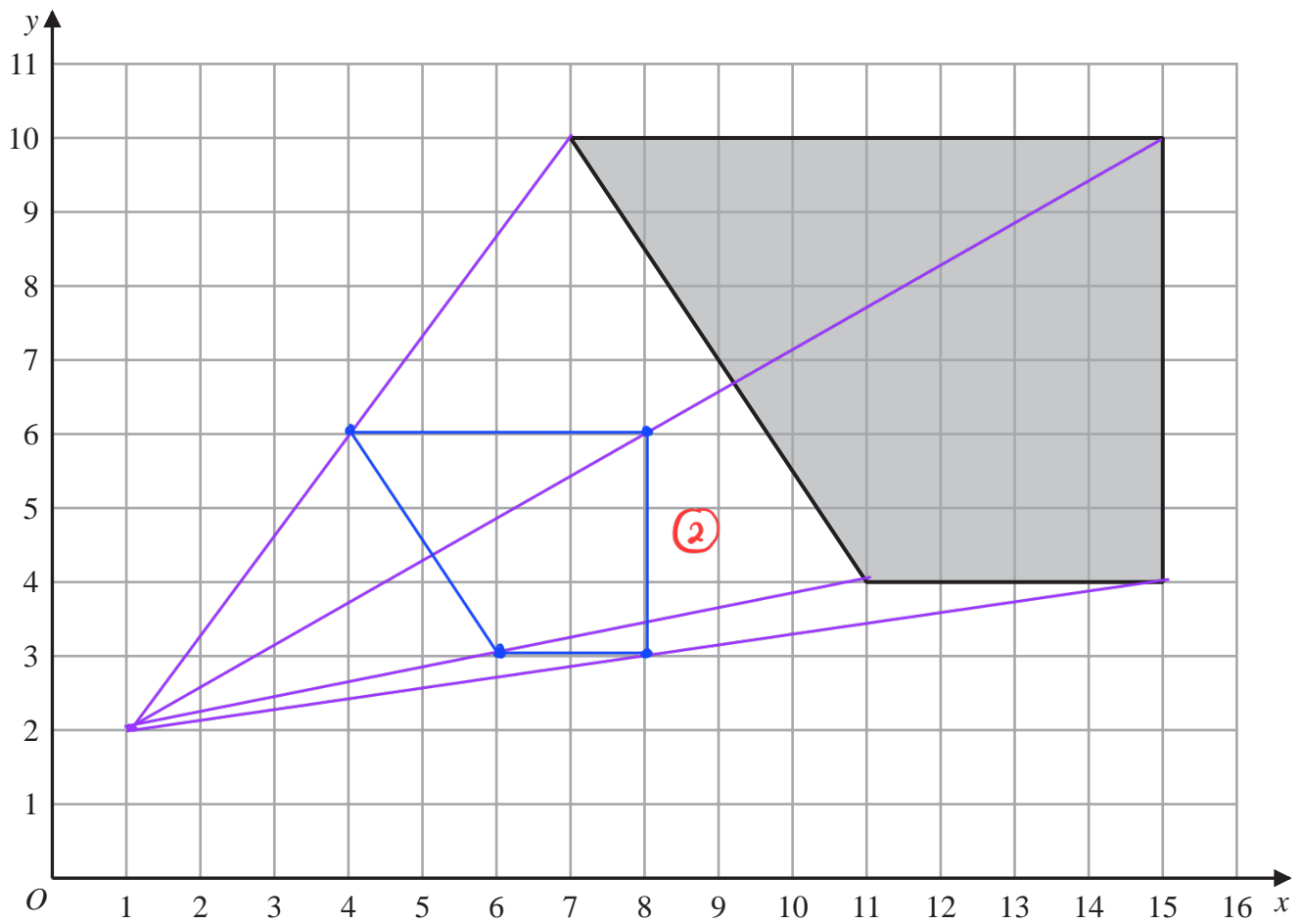


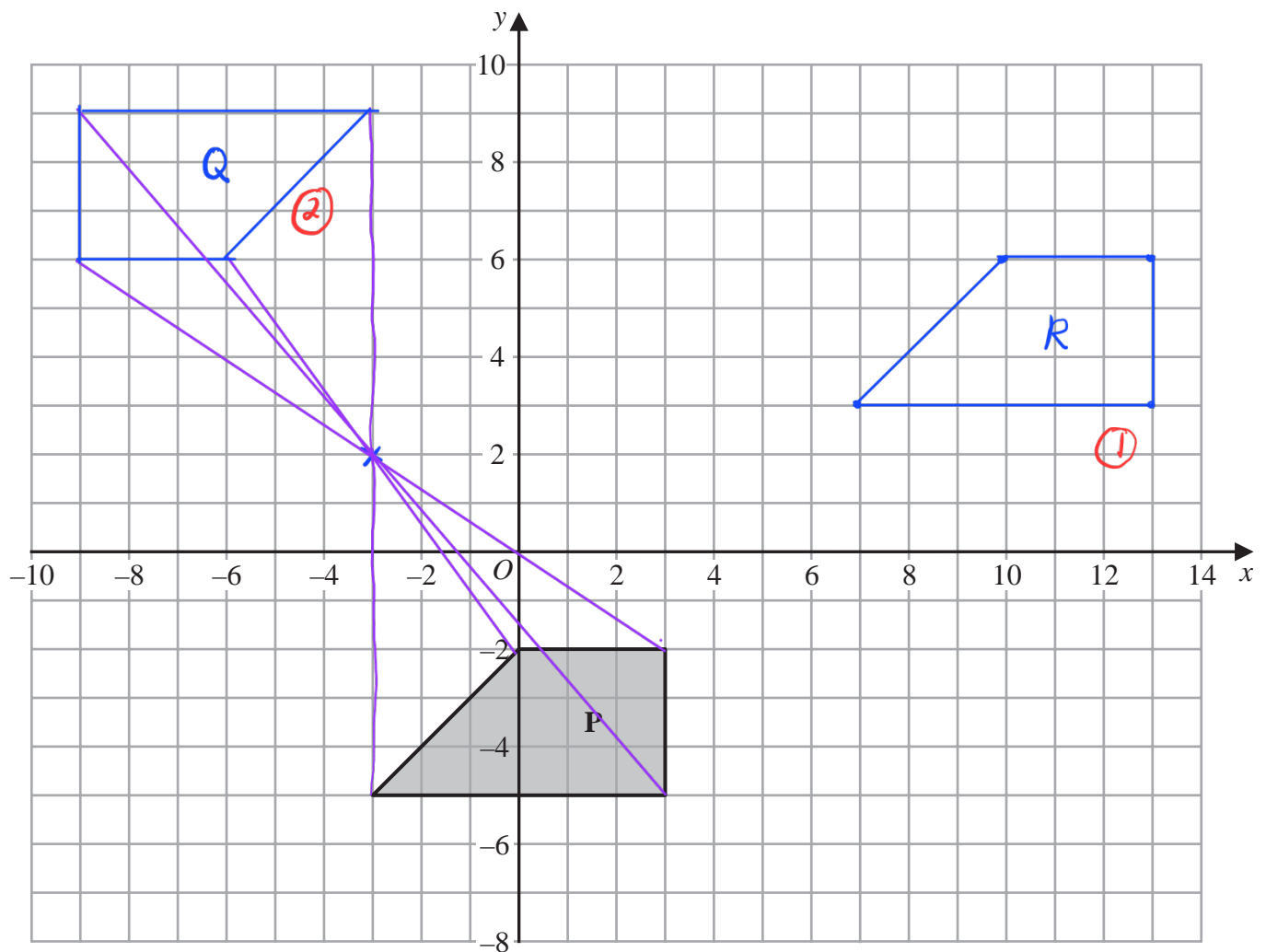
**1**

On the grid, enlarge the shaded shape with scale factor  $\frac{1}{2}$  and centre (1, 2)

---

(Total for Question 1 is 2 marks)

2 Here is a shape **P** drawn on a grid of squares.



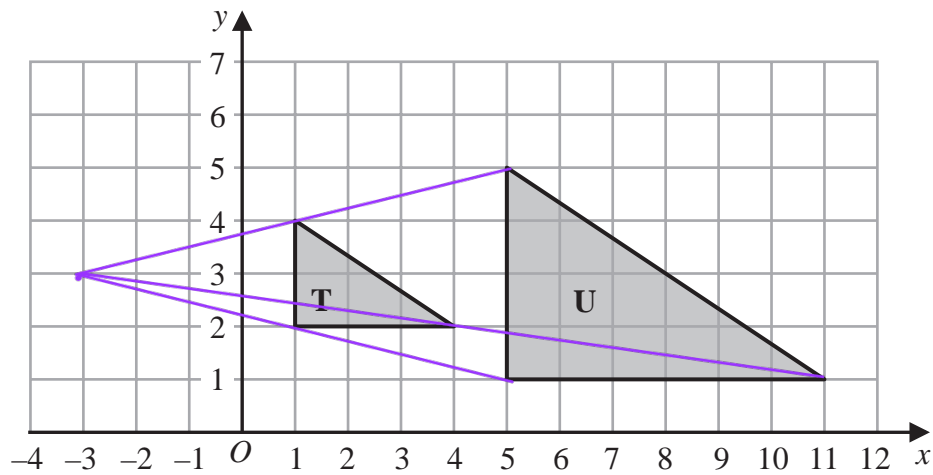
- (a) On the grid, rotate shape **P**  $180^\circ$  about the point  $(-3, 2)$   
Label the new shape **Q**.

(2)

- (b) On the grid, translate shape **P** by the vector  $\begin{pmatrix} 10 \\ 8 \end{pmatrix}$  *10 position to the right*  
*8 position upwards*  
Label the new shape **R**.

(1)

Here are triangle **T** and triangle **U** drawn on a grid of squares.



(c) Describe fully the single transformation that maps triangle **T** onto triangle **U**.

Enlargement of Scale factor 2 at centre  $(-3, 3)$

(1)

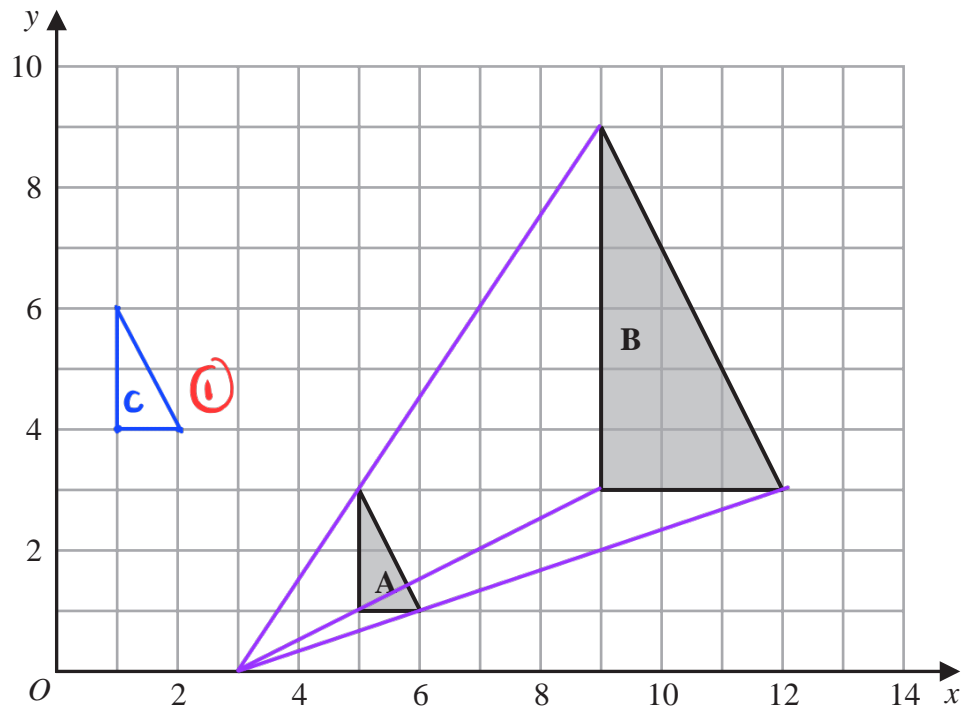
(1)

(1)

(3)

(Total for Question 2 is 6 marks)

3



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

Enlargement of scale factor 3 at centre (3,0)

①

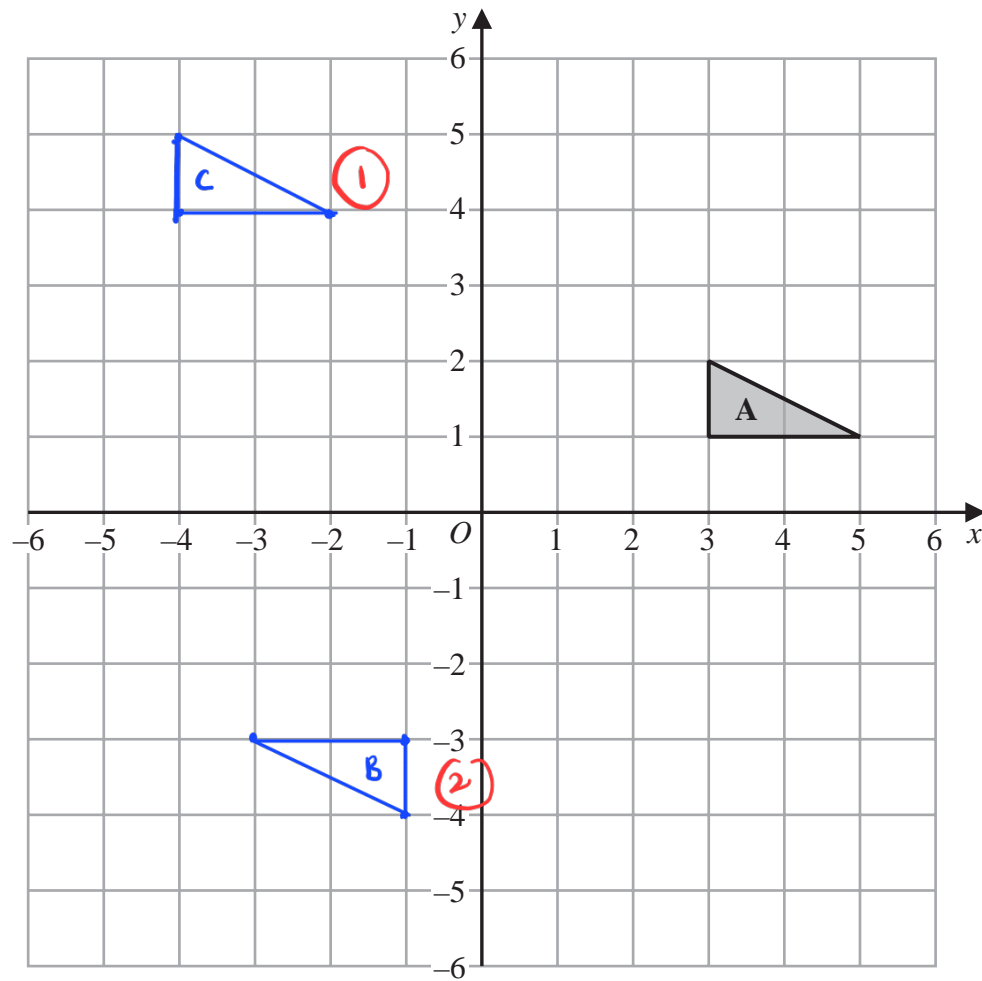
①

①

(3)

(Total for Question 3 is 3 marks)

4



- (a) On the grid, rotate triangle **A**  $180^\circ$  about  $(1, -1)$   
Label the new triangle **B**

(2)

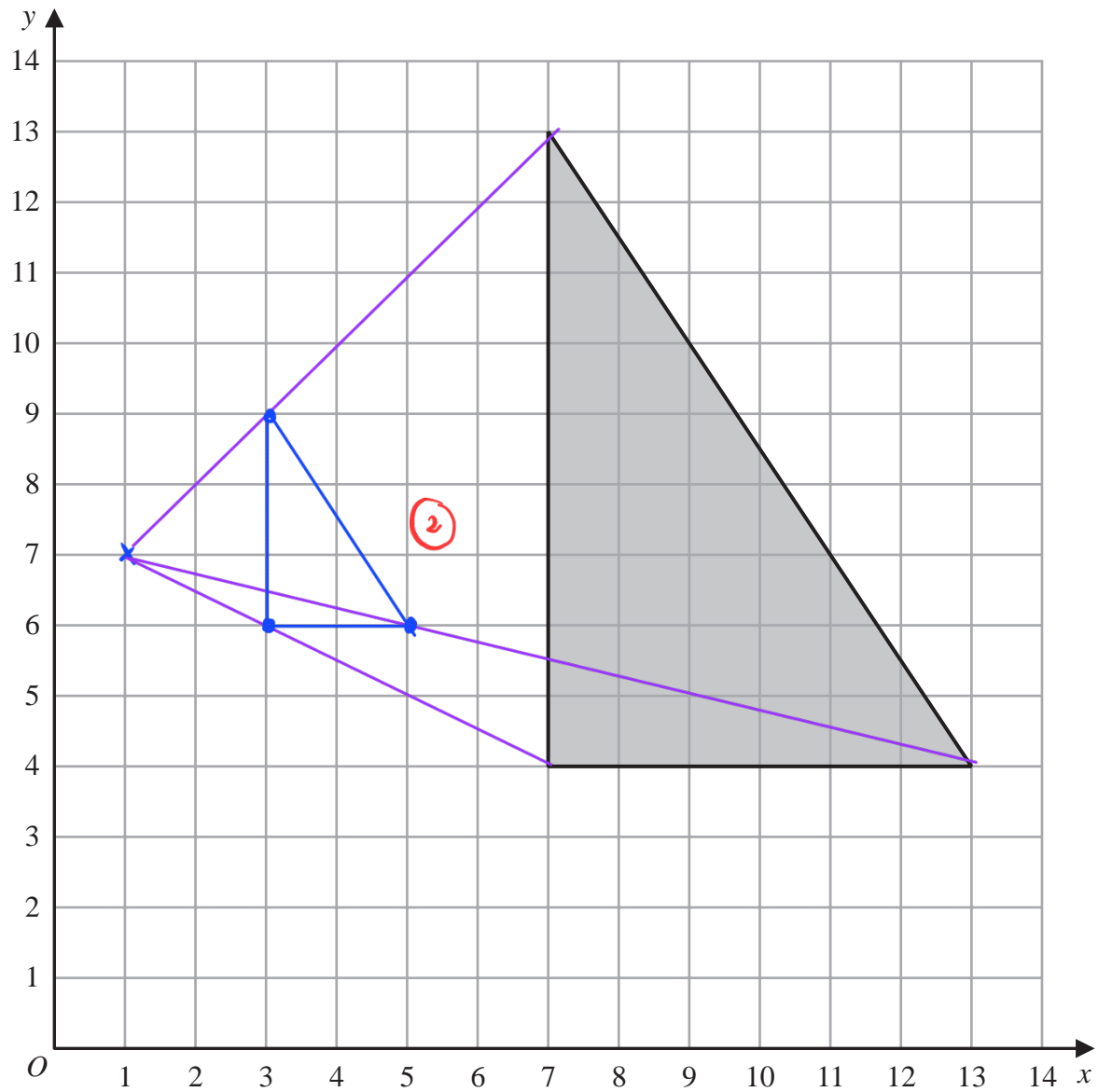
- (b) On the grid, translate triangle **A** by the vector  $\begin{pmatrix} -7 \\ 3 \end{pmatrix}$

Label the new triangle **C**

(1)

(Total for Question 4 is 3 marks)

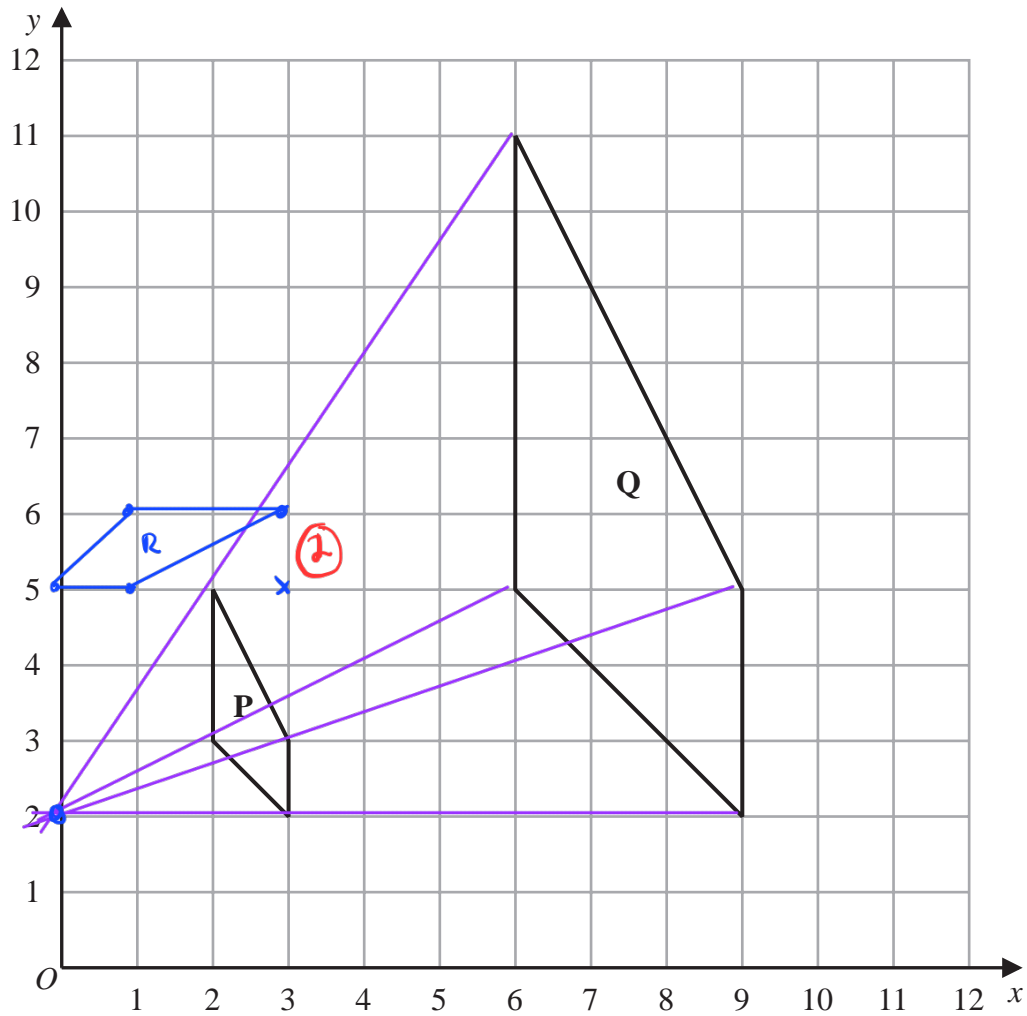
5



On the grid, enlarge the shaded shape with scale factor  $\frac{1}{3}$  and centre (1, 7)

(Total for Question 5 is 2 marks)

- 6 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**

Enlargement of scale factor 3 at centre  $(0, 2)$

①

①

①

(3)

(Total for Question 6 is 3 marks)