




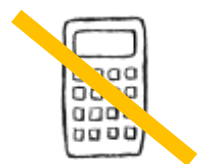
COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 13 (2018)



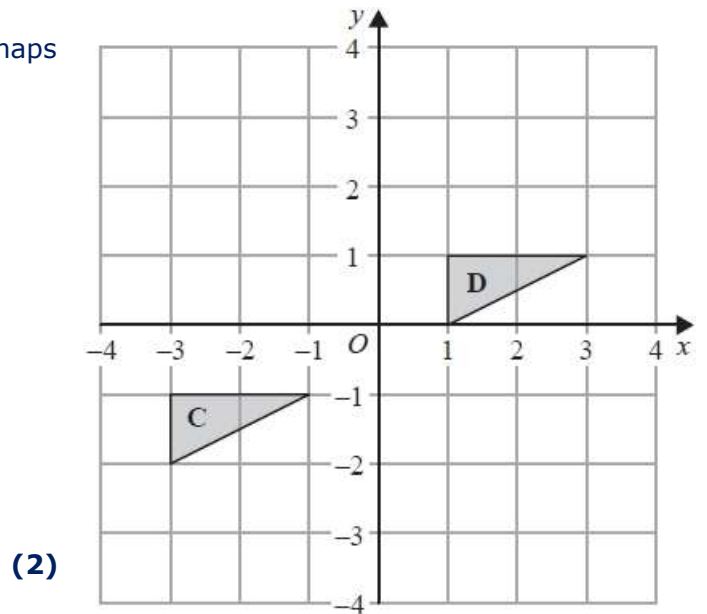
| | Marks | Actual |    |
|--|-------|--------|---|
| Q1. Translations (Clip 67) | 2 | | |
| Q2. Reflections & enlargements (Clips 64 & 63) | 5 | | |
| Q3. Rotations (Clip 65) | 3 | | |
| Q4. Rotations (Clip 65) | 2 | | |
| Q5. Rotations & enlargements (Clips 63 & 65) | 5 | | |
| Q6. Reflections & rotations (Clips 64 & 65) | 4 | | |
| Q7. Rotations & translations (Clips 65 & 67) | 2 | | |
| Q8. Enlargements (Clip 63) | 3 | | |
| Q9. Rotations & enlargements (Clips 63 & 65) | 5 | | |
| Q10. Translations and rotations (Clips 67 & 65) | 4 | | |
| Q11. Translations and rotations (Clips 67 & 65) | 5 | | |
| Q12. Enlargements (Clip 63) | 3 | | |
| Q13. Reflections and Translations (Clips 65 & 66) | 4 | | |
| Q14. Enlargements (Clip 63) | 3 | | |
| Q15. Translations (Clip 67) | 2 | | |
| Q16. Translations & reflections with rotations (clips 66 & 67) | 3 | | |
| Q17. Enlargements (Clip 63) | 2 | | |
| Q18. Enlargements (Clip 63) | 2 | | |

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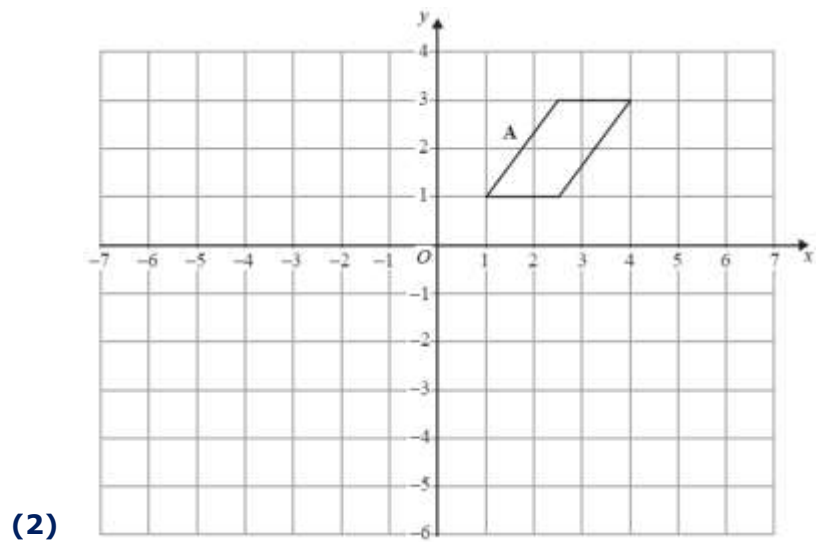


Questions

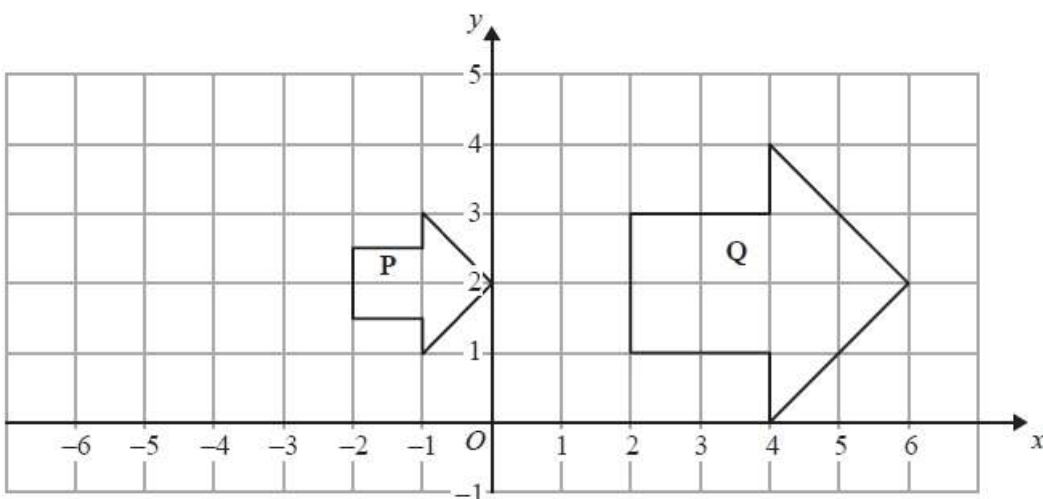
Q1. Describe fully the single transformation that maps triangle **C** onto triangle **D**.



Q2. (a) Reflect shape **A** in the line $x = -1$

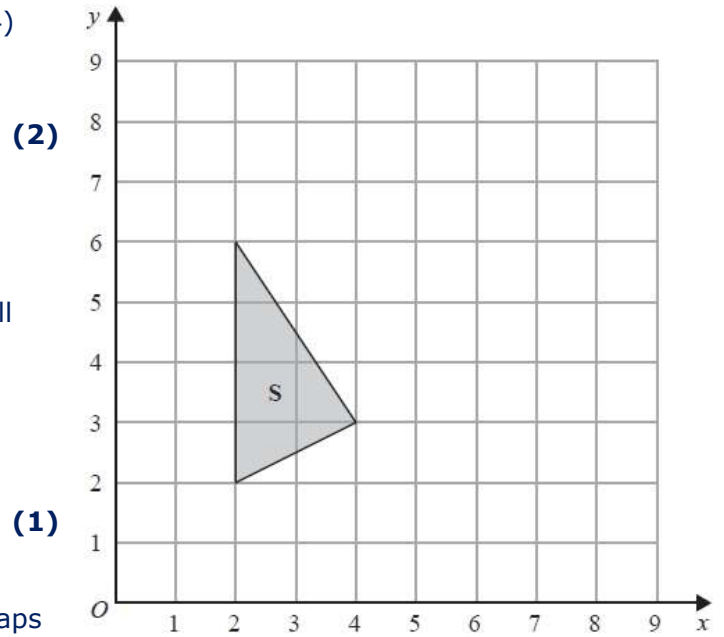


(b) Describe fully the single transformation that maps shape **P** onto shape **Q**.



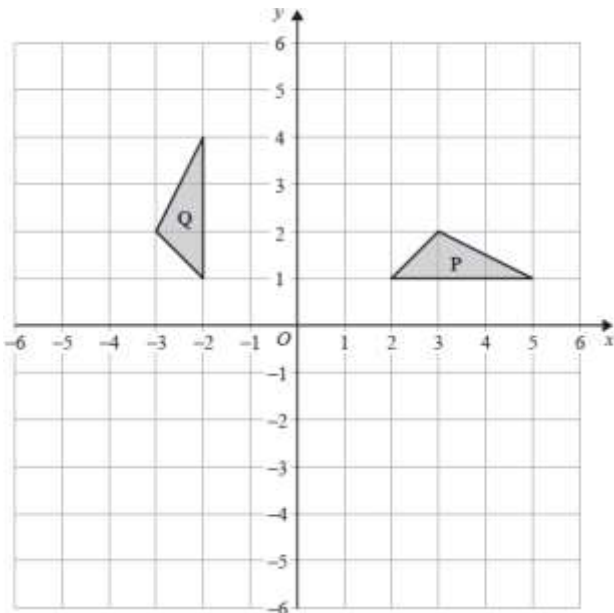
(3)

Q3. (a) Rotate shape **S** 90° clockwise, centre $(5, 4)$
Label your image **T**.



(b) Describe fully the single transformation that will map shape **T** onto shape **S**.

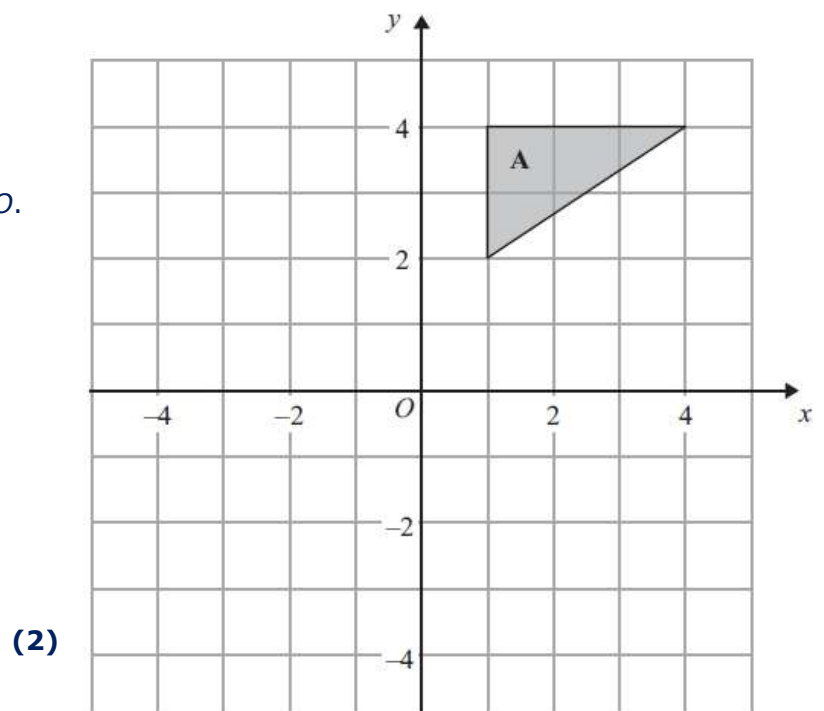
Q4. Describe fully the single transformation that maps triangle **P** onto triangle **Q**.



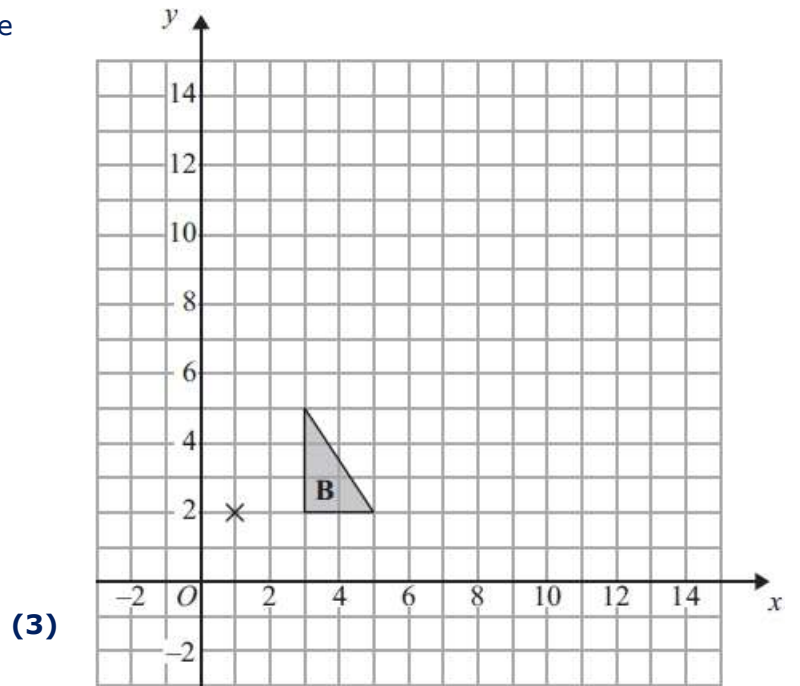
(2)

Q5.

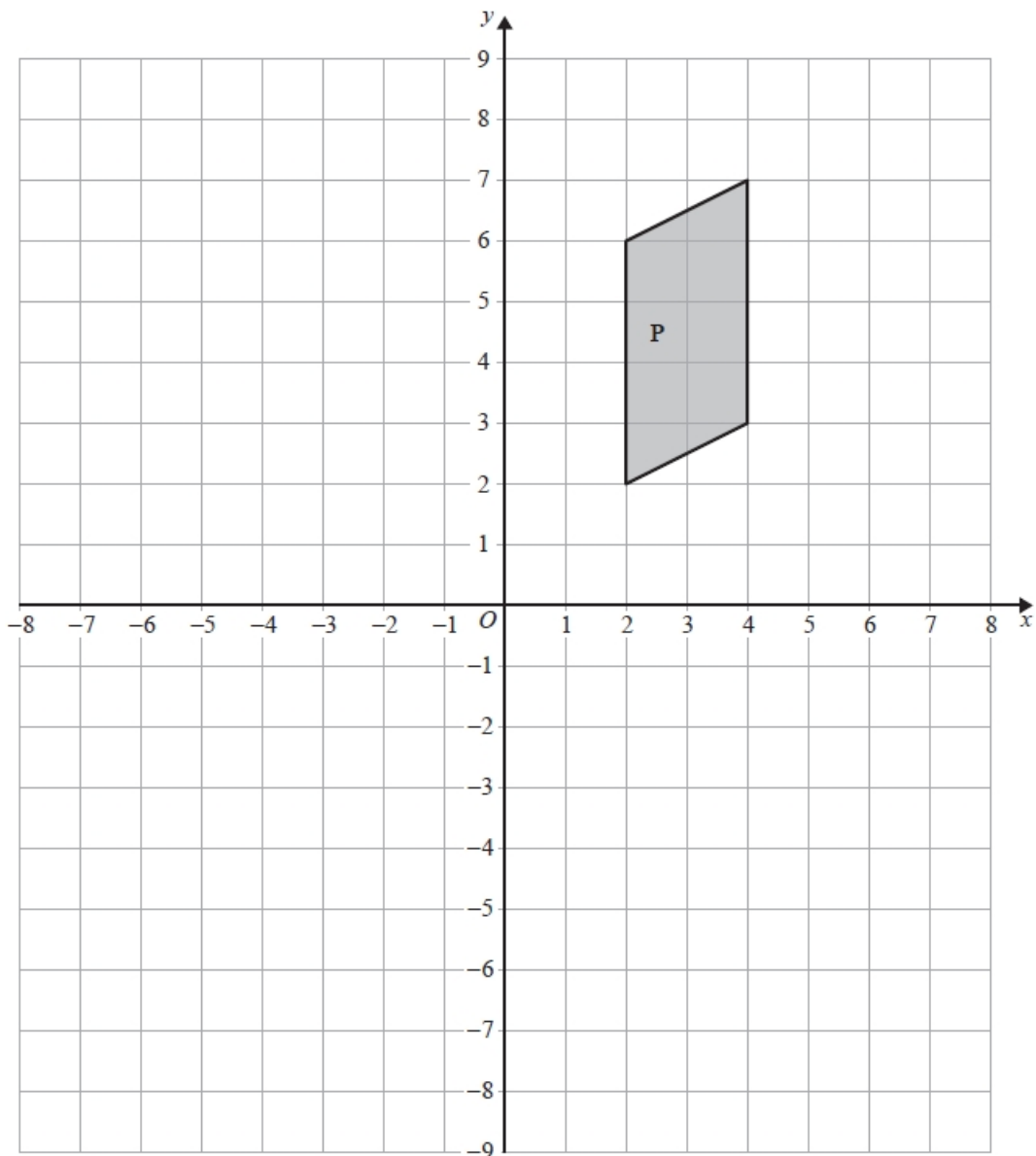
(a) Rotate triangle **A** 90° clockwise, centre O .



(b) Enlarge triangle **B** by scale factor 3, centre (1, 2).

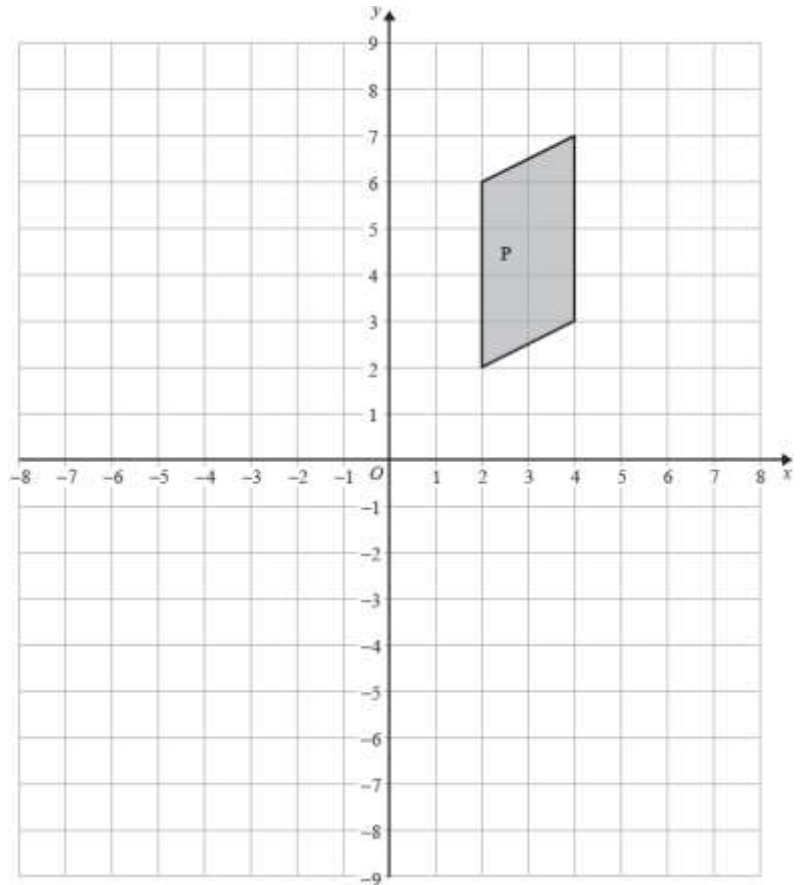


Q6. (a) Reflect shape **P** in the line $x = -1$

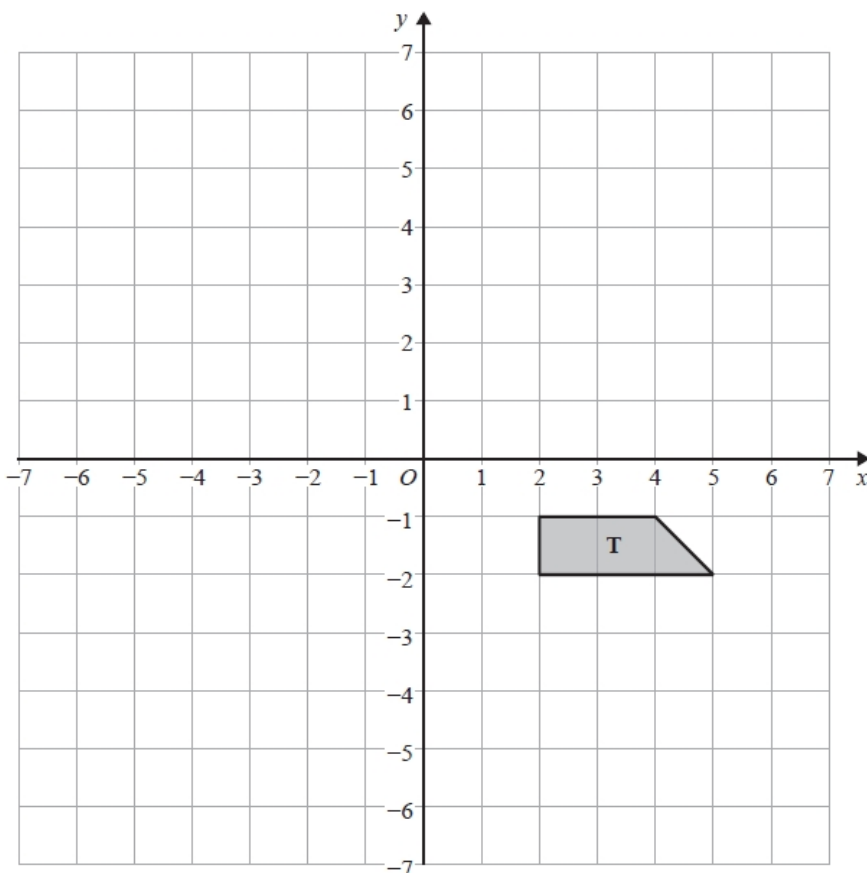


(2)

(b) Rotate shape **P** 90° anticlockwise about $(0, 1)$.



Q7.



(a) Rotate trapezium **T** 180° about the origin.

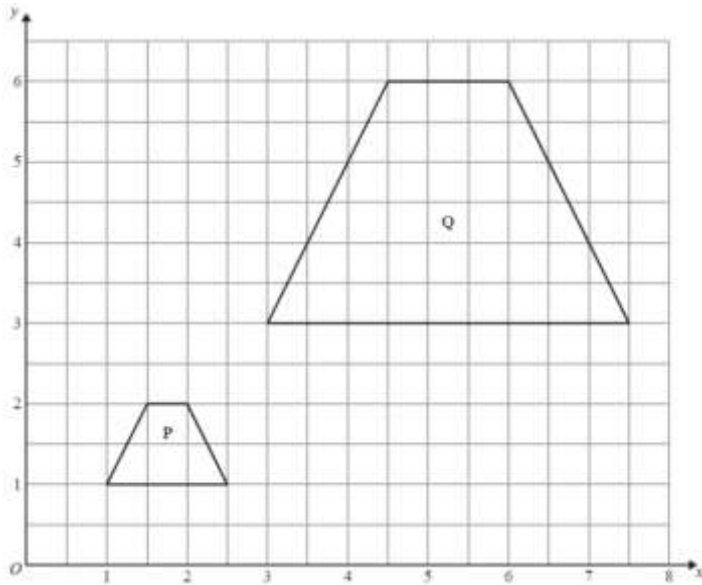
Label the new trapezium **A**.

(1)

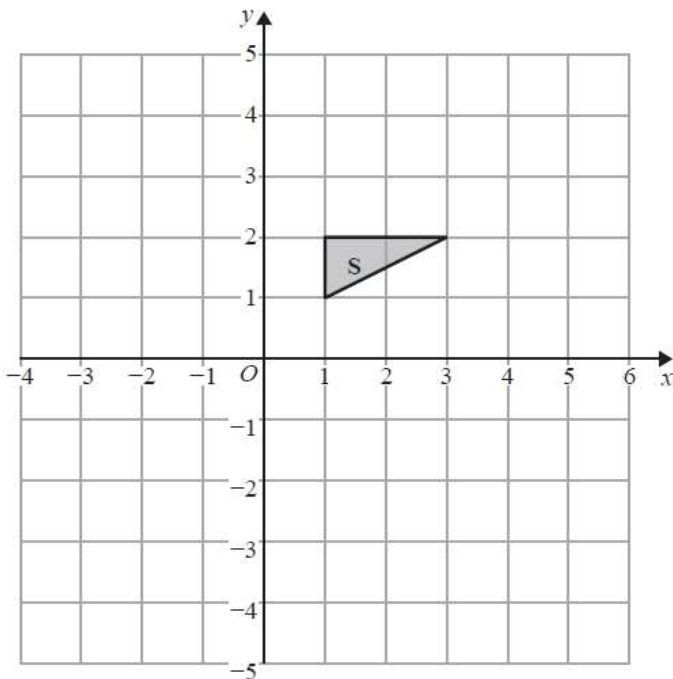
(b) Translate trapezium **T** by the vector $\begin{pmatrix} -1 \\ -3 \end{pmatrix}$.
Label the new trapezium **B**.

(1)

Q8. Describe fully the single transformation that maps shape **P** onto shape **Q**.



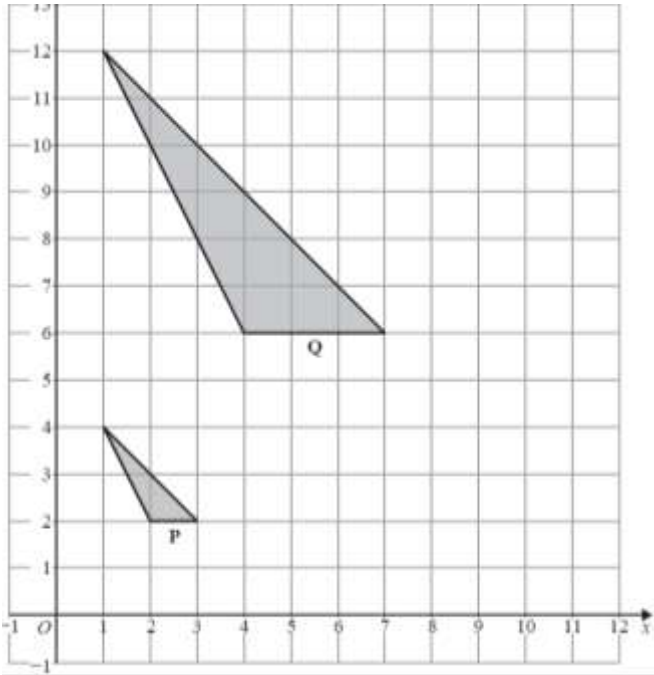
(3)



Q9. (a) On the grid, rotate shape **S** by 90° anticlockwise about the origin.

(2)

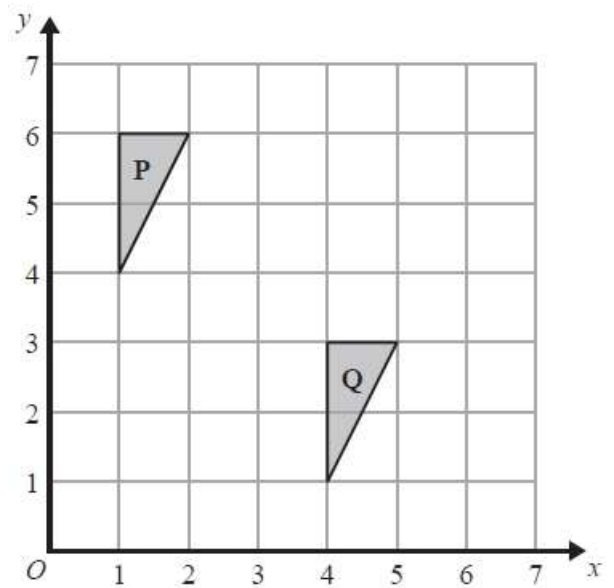
(b) Describe fully the single transformation that maps shape **P** onto shape **Q**.



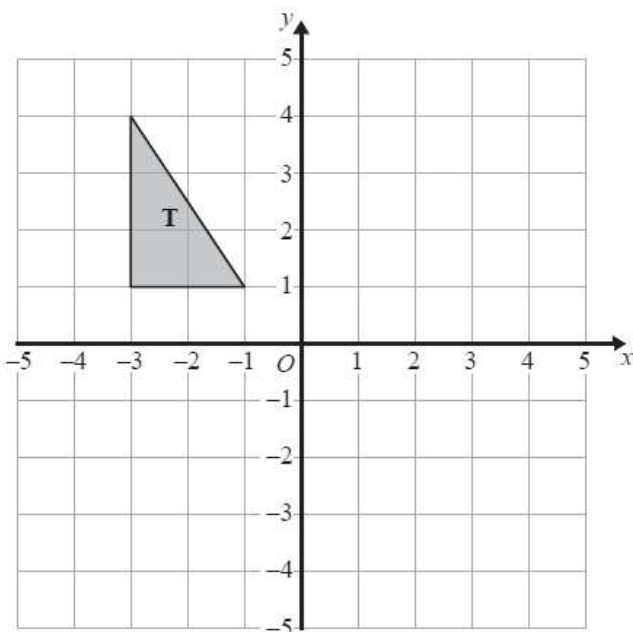
Q10.

(a) Describe fully the single transformation that maps shape **P** to shape **Q**.

(3)



(2)

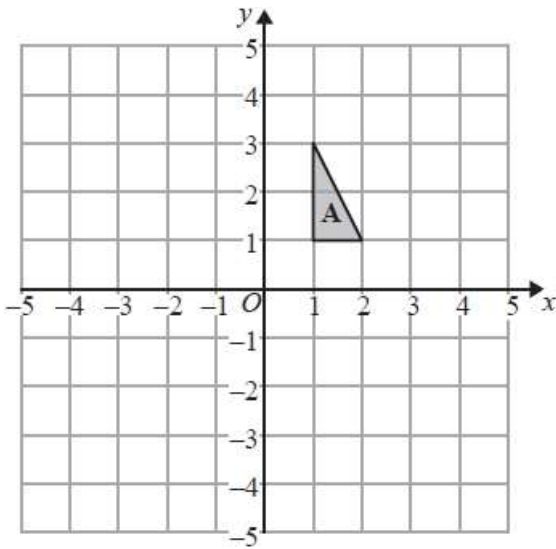


(b) Rotate triangle **T** 180° about the point $(0, 1)$.

(2)

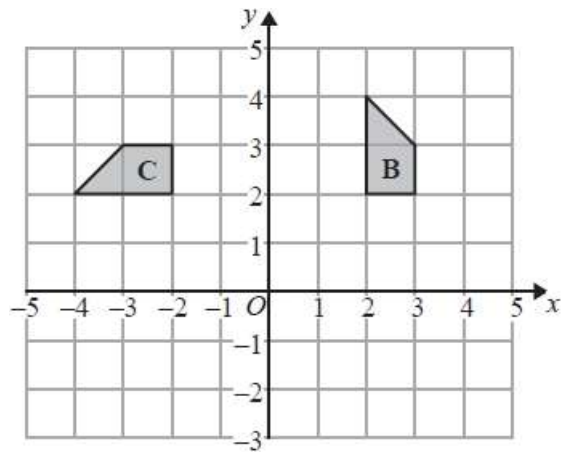
(Total for question = 4 marks)

Q11. (a) On the grid above, translate shape **A** by the vector $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$



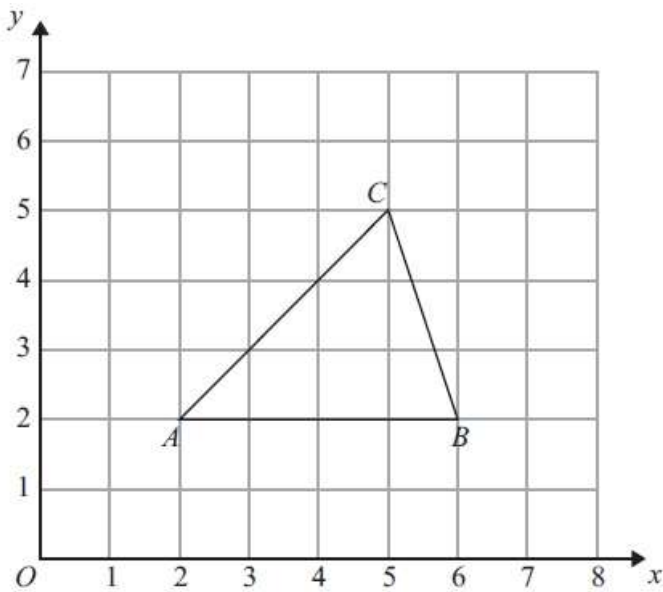
(2)

(b) Describe fully the single transformation that maps shape **B** onto shape **C**.



(3)

Q12.



Triangle *ABC* is drawn on a centimetre grid.
A is the point (2, 2).
B is the point (6, 2).
C is the point (5, 5).

Triangle *PQR* is an enlargement of triangle *ABC* with scale factor $\frac{1}{2}$ and centre (0, 0).

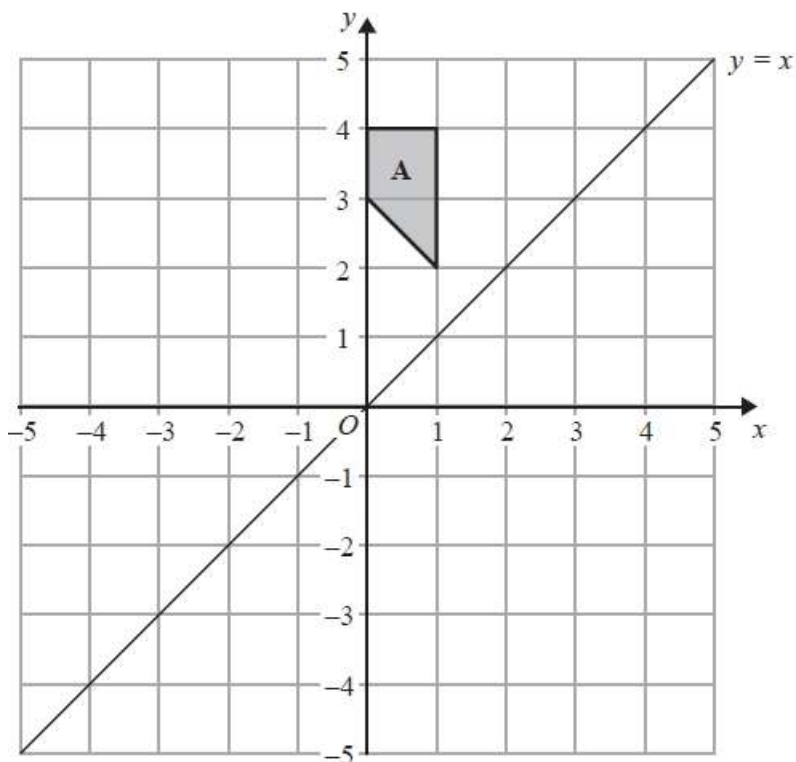
Work out the area of triangle *PQR*.

..... cm²

(3)

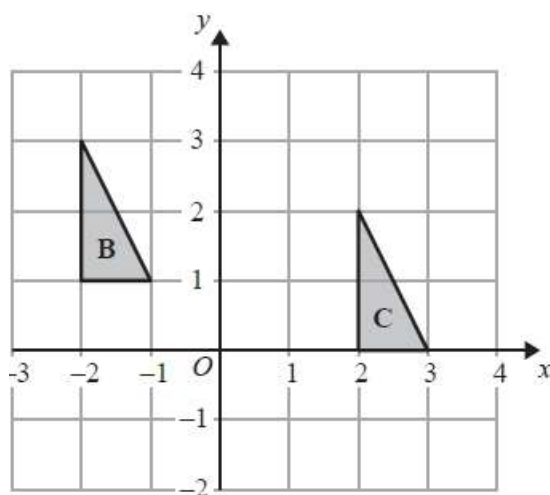
Q13. (a) On the grid, reflect shape **A** in the line $y = x$.

(2)



(b) Describe fully the single transformation that maps triangle **B** onto triangle **C**.

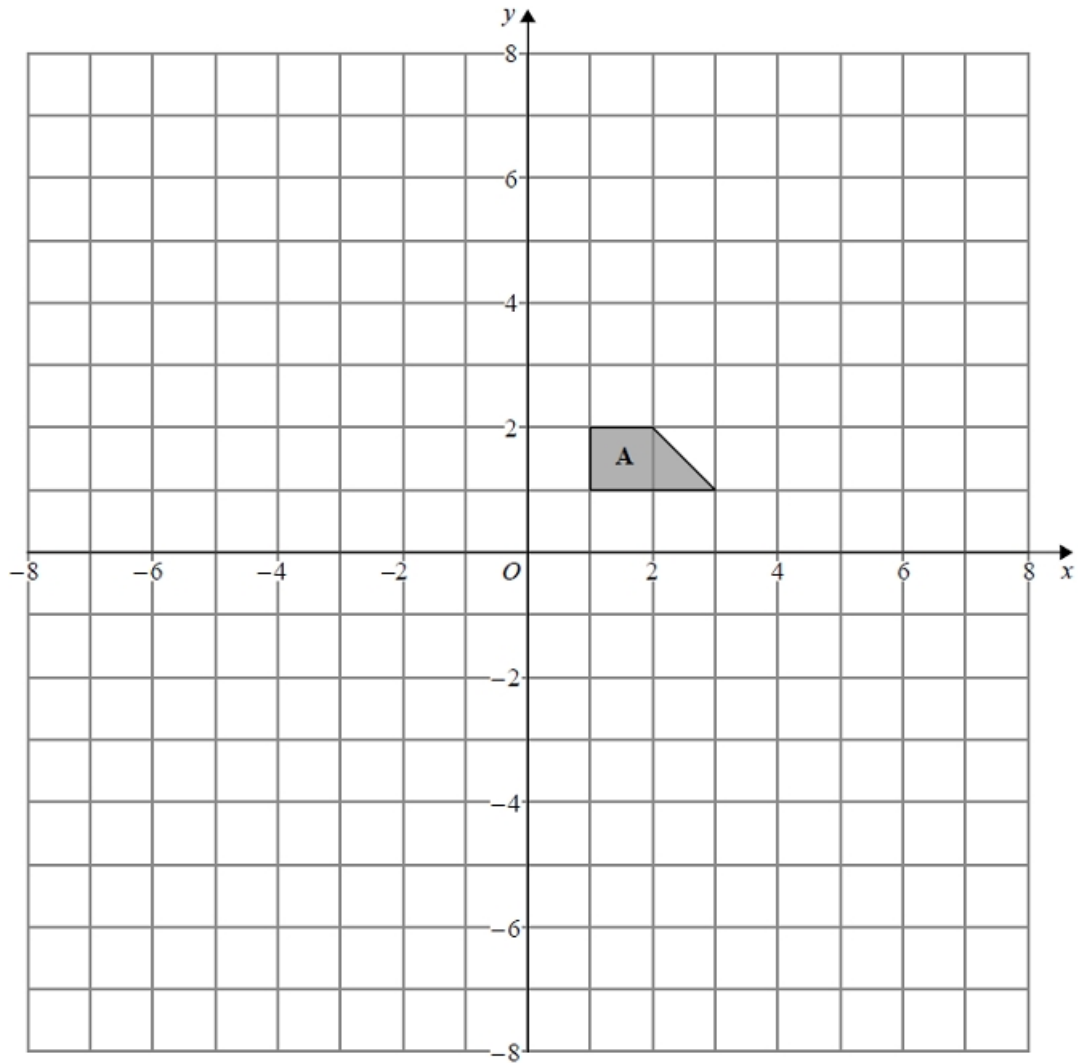
(2)



Q14. (a) Enlarge shape **A** by scale factor -2 , centre $(0, 0)$

Label your image **B**.

(2)



(b) Describe fully the single transformation that will map shape **B** onto shape **A**.

(1)

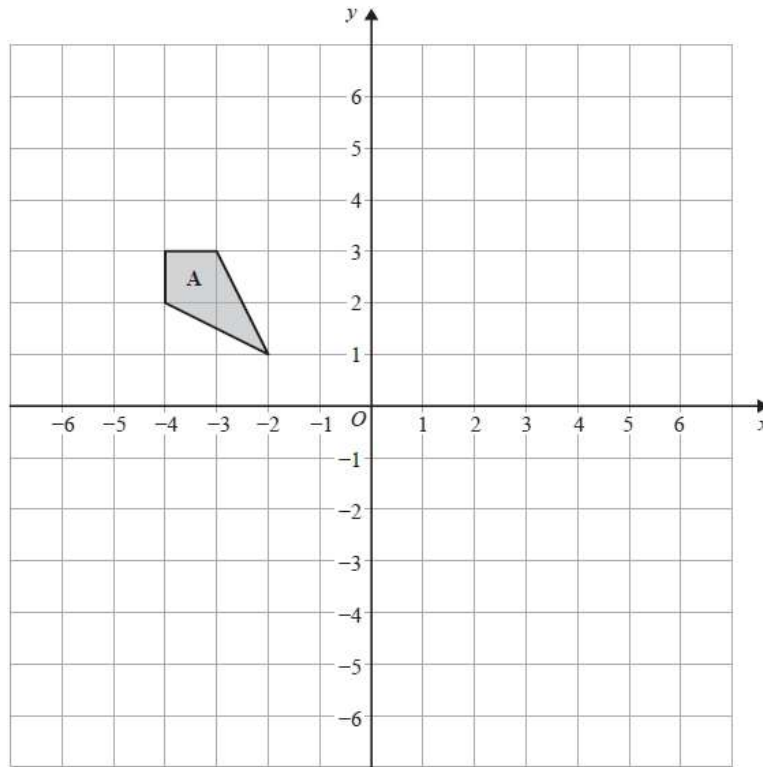
Q15. Shape **A** is translated by the vector $\begin{pmatrix} 4 \\ -7 \end{pmatrix}$ to make Shape **B**.

Shape **B** is then translated by the vector $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$ to make Shape **C**.

Describe the single transformation that maps Shape **A** onto Shape **C**.

(2)

Q16.



(a) On the grid, translate shape **A** by the vector $\begin{pmatrix} 6 \\ -5 \end{pmatrix}$
 Label the new shape **B**. (1)

(b) On the grid, translate shape **B** by the vector $\begin{pmatrix} -8 \\ 8 \end{pmatrix}$
 Label the new shape **C**. (1)

(c) Write down the column vector for the translation that maps shape **A** onto shape **C**.

()

(1)

Q17. Here is a triangle.

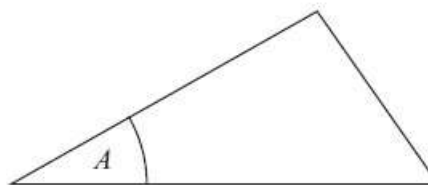


Diagram **NOT** accurately drawn

The perimeter of the triangle is 10 cm.
 Angle $A = 40^\circ$.

The triangle is enlarged by a scale factor of 3

(i) Write down the perimeter of the enlarged triangle.

(ii) Write down the size of angle A in the enlarged triangle.

(2)

Q18. Fred is making two rectangular flower beds.

The dimensions of the larger rectangle will be three times the dimensions of the smaller rectangle.

There is going to be the same depth of soil in each flower bed.
Fred needs 180 kg of soil for the smaller flower bed.

Work out how much soil Fred needs for the larger flower bed.

..... kg **(2)**