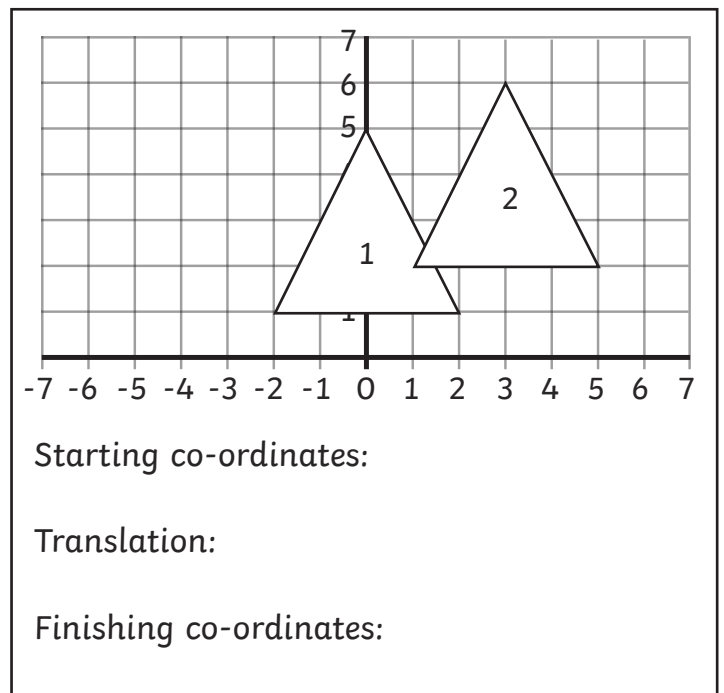
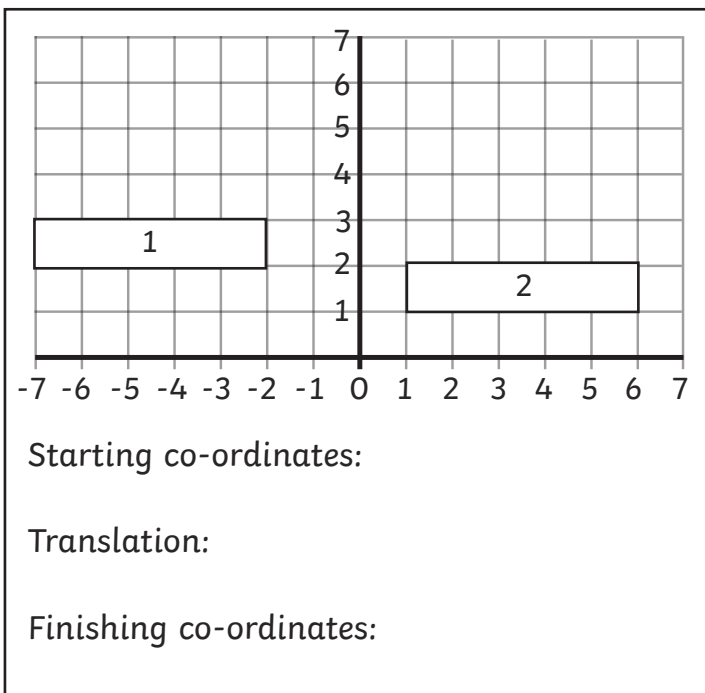
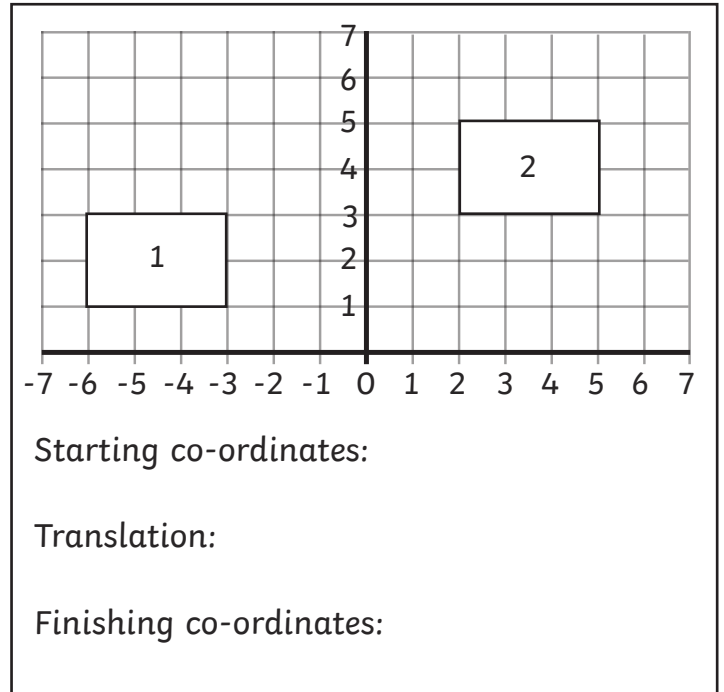
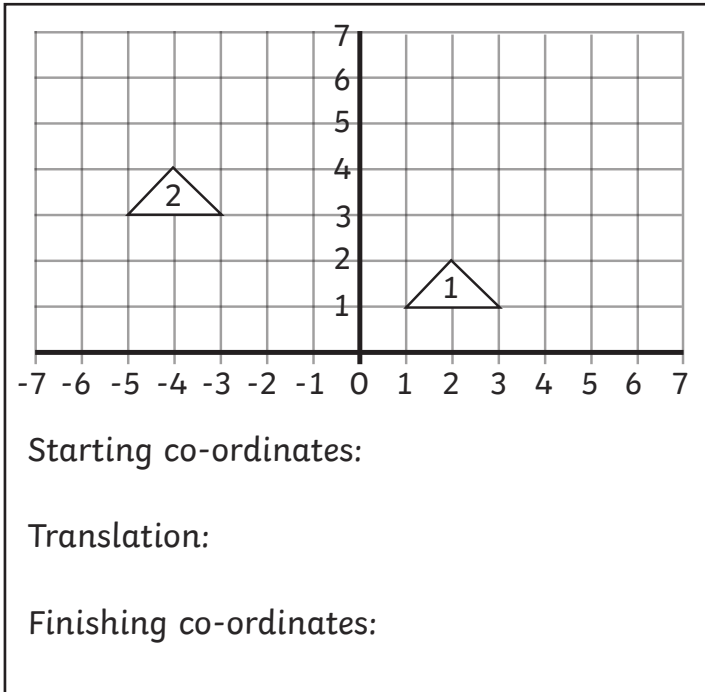


# 2D Shape Translations

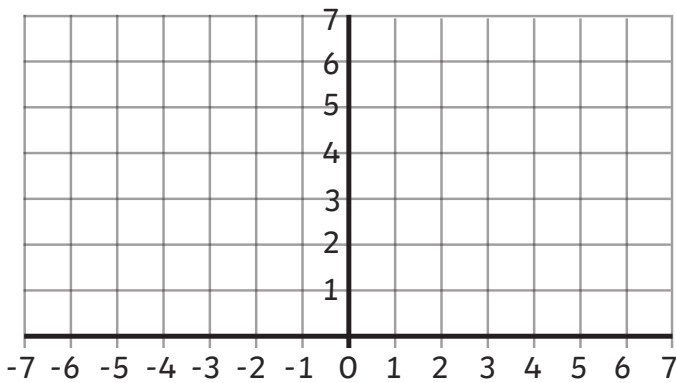
I can describe the translation of a 2D shape on a two-quadrant co-ordinate grid.

Describe the positions and translations of the 2D shapes.



Plot the following co-ordinates and following the translations to reveal a new shape.

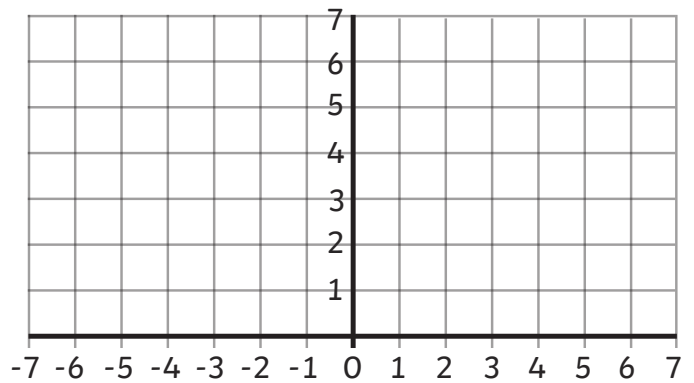
Plot these co-ordinates to reveal a shape:  
 $(0,1)$ ,  $(2,1)$ ,  $(2,3)$ ,  $(0,3)$



Translate the shape left 6, down 1.

What are the co-ordinates of the new shape?

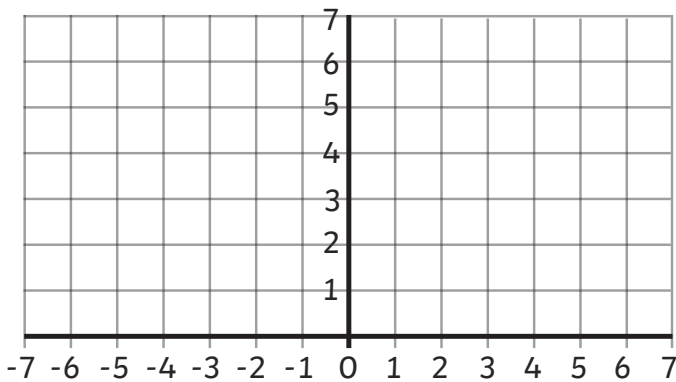
Plot these co-ordinates to reveal a shape:  
 $(-2, 3)$ ,  $(-1, 5)$ ,  $(-3, 5)$



Translate the shape right 4, down 2.

What are co-ordinates of the new shape?

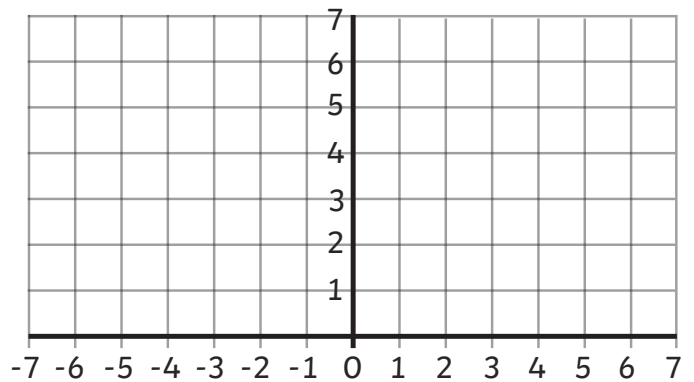
Plot these co-ordinates to reveal a shape:  
 $(1,1)$ ,  $(3,1)$ ,  $(1,3)$



Translate the shape left 2, up 2.

What are the co-ordinates of the new shape?

Plot these co-ordinates to reveal a shape:  
 $(3, 3)$ ,  $(4,4)$ ,  $(3,5)$ ,  $(2, 4)$



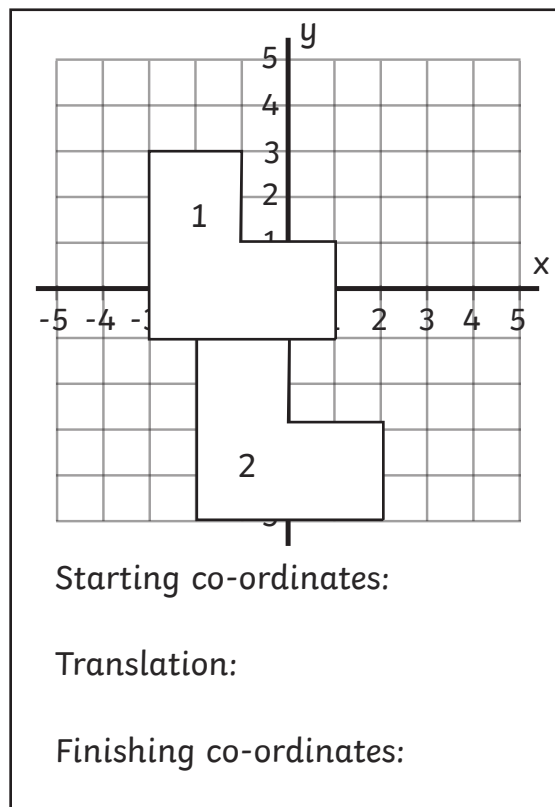
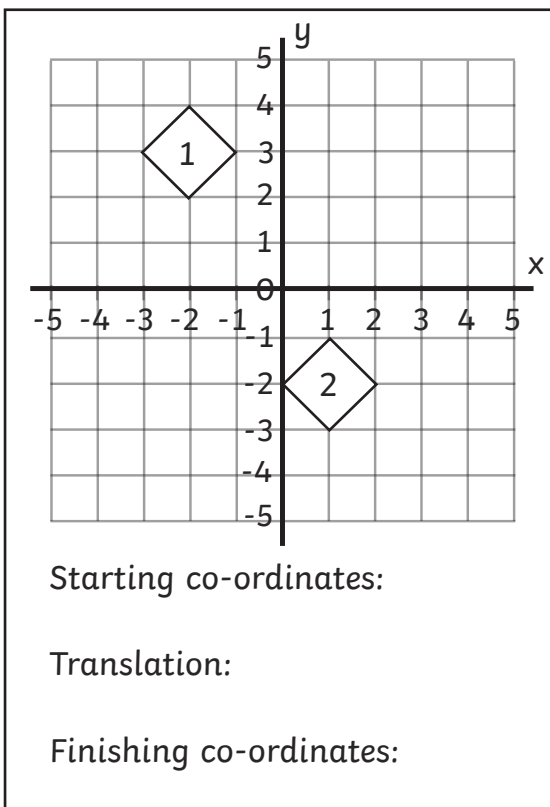
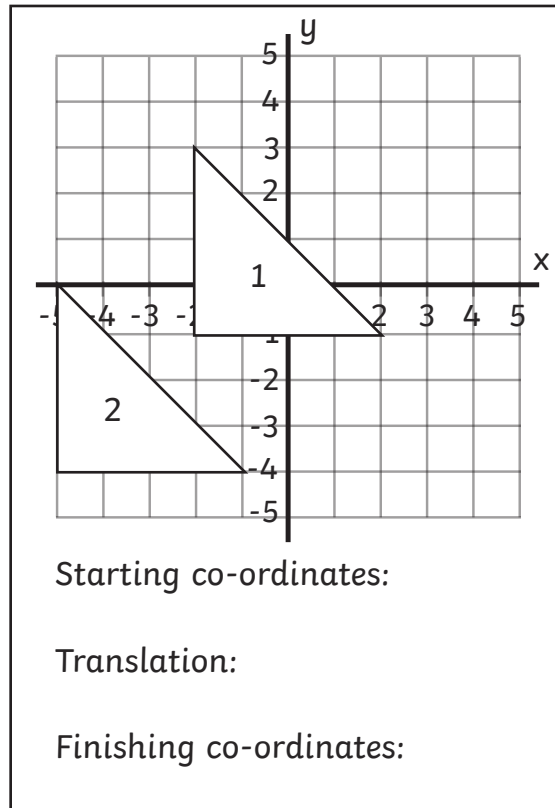
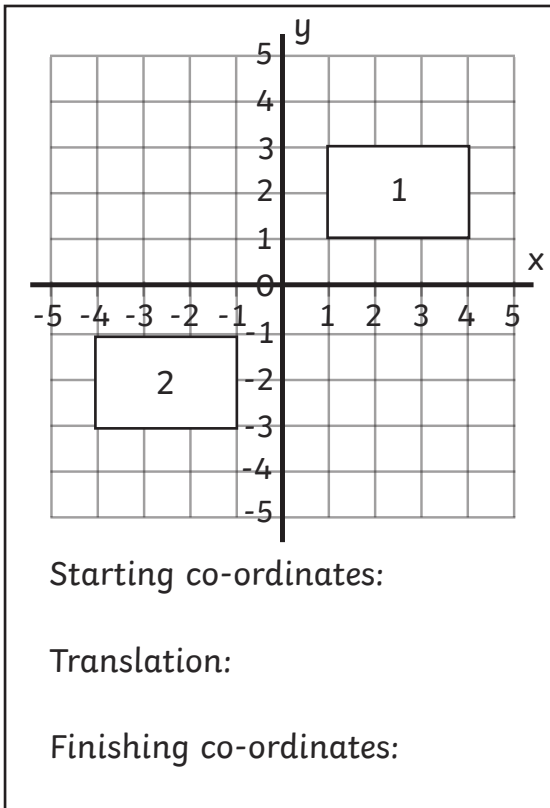
Translate the shape left 3, down 3.

What are the co-ordinates of the new shape?

# 2D Shape Translations

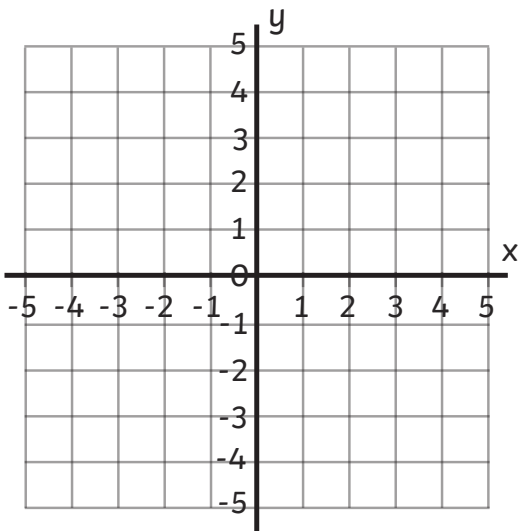
I can describe the translation of a 2D shape on a four-quadrant co-ordinate grid.

Describe the positions and translations of the 2D shapes.



Plot the following co-ordinates and following the translations to reveal a new shape.

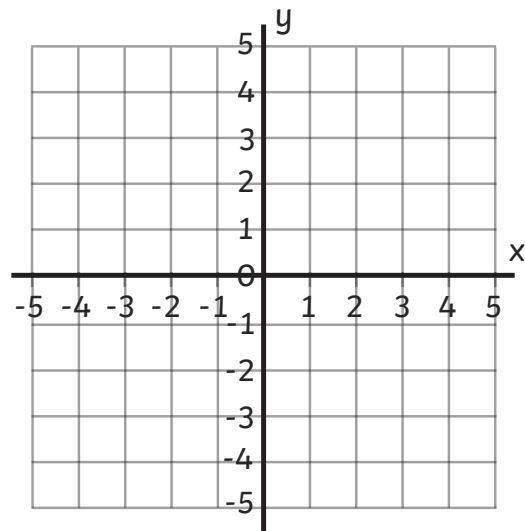
Plot these co-ordinates to reveal a shape:  $(-3, -1)$ ,  $(-3, -2)$ ,  $(1, -1)$ ,  $(1, -2)$



Translate the shape right 3, up 3.

What are the co-ordinates of the new shape?

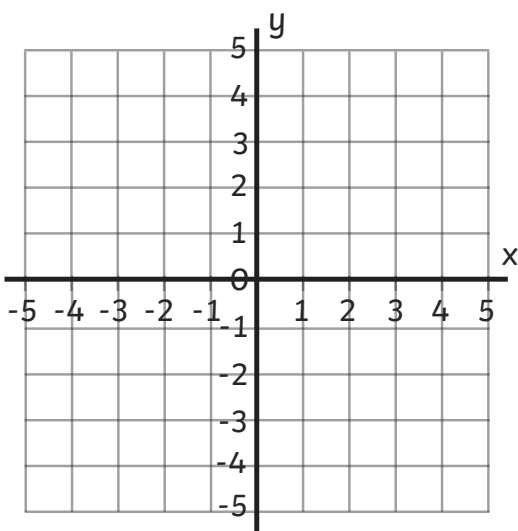
Plot these co-ordinates to reveal a shape:  $(2, 1)$ ,  $(4, 1)$ ,  $(0, -3)$ ,  $(0, -1)$



Translate the shape left 4, up 1.

What are the co-ordinates of the new shape?

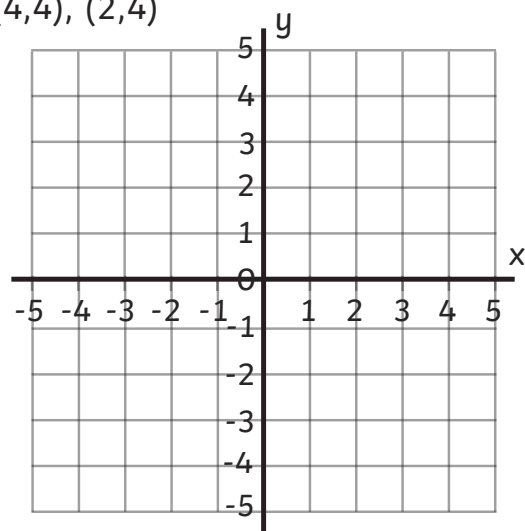
Plot these co-ordinates to reveal a shape:  $(-2, 4)$ ,  $(-4, -3)$ ,  $(0, -3)$



Translate the shape right 4, down 2.

What are the co-ordinates of the new shape?

Plot these co-ordinates to reveal a shape:  $(2, 1)$ ,  $(3, 1)$ ,  $(3, 3)$ ,  $(4, 3)$ ,  $(4, 4)$ ,  $(2, 4)$



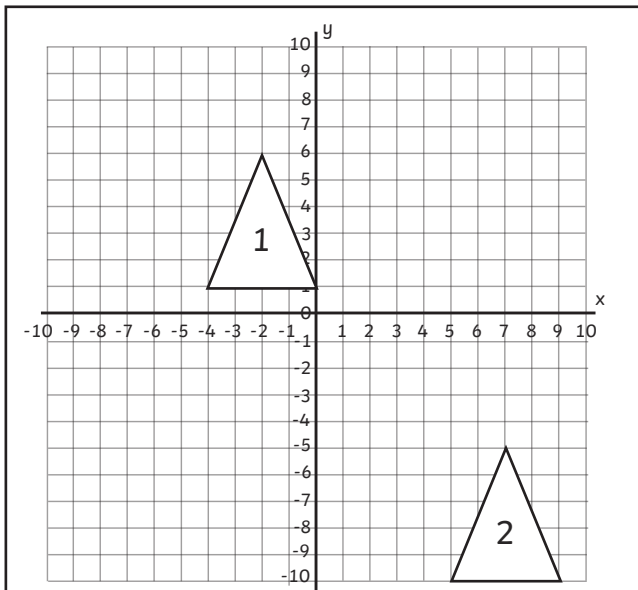
Translate the shape left 3, down 4.

What are the co-ordinates of the new shape?

# 2D Shape Translations

I can describe the translation of a 2D shape on a four-quadrant co-ordinate grid.

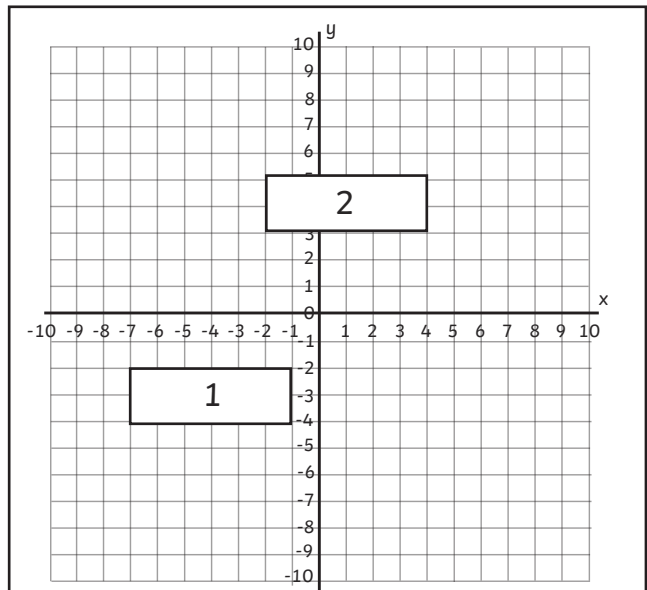
Describe the positions and translations of the 2D shapes.



Starting co-ordinates:

Translation:

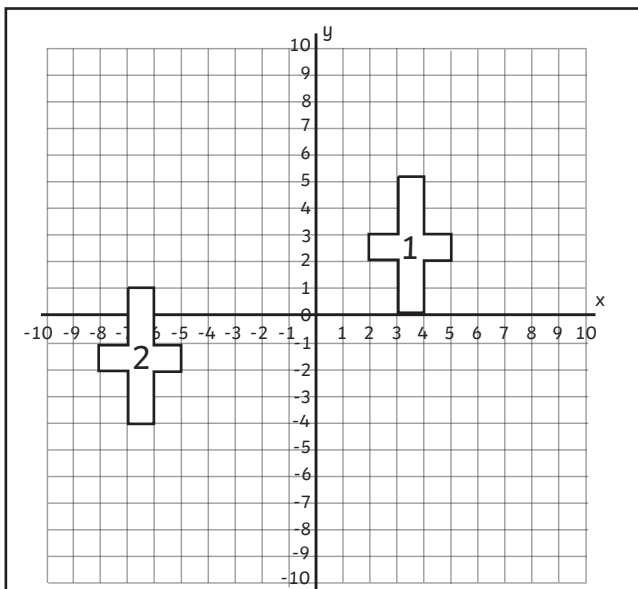
Finishing co-ordinates:



Starting co-ordinates:

Translation:

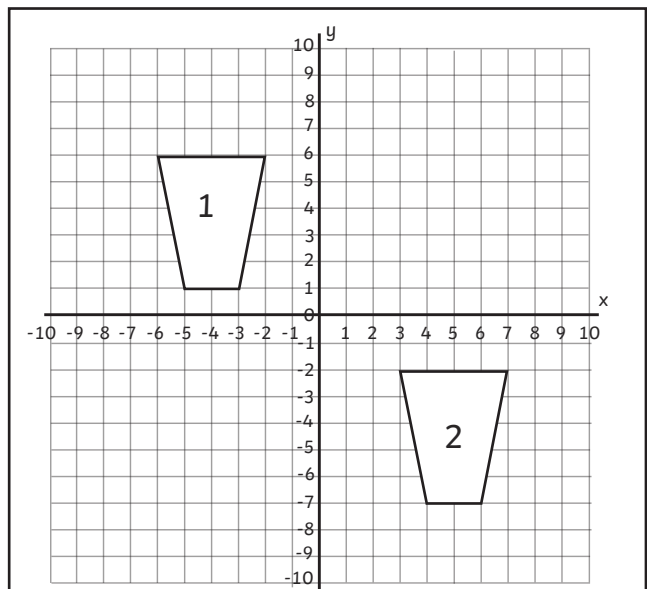
Finishing co-ordinates:



Starting co-ordinates:

Translation:

Finishing co-ordinates:



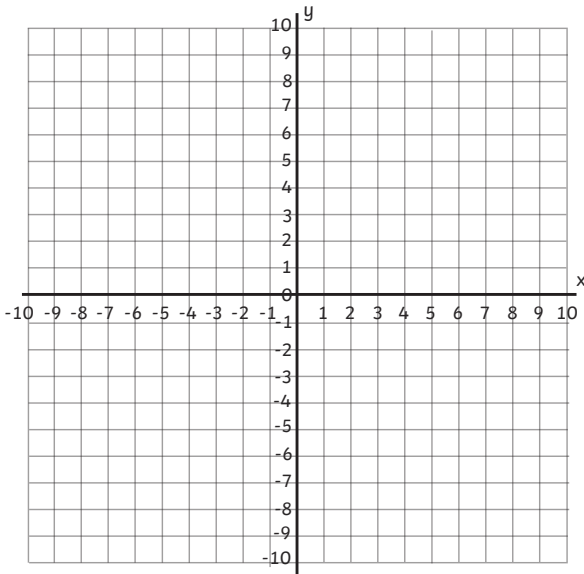
Starting co-ordinates:

Translation:

Finishing co-ordinates:

Plot the following co-ordinates and following the translations to reveal a new shape.

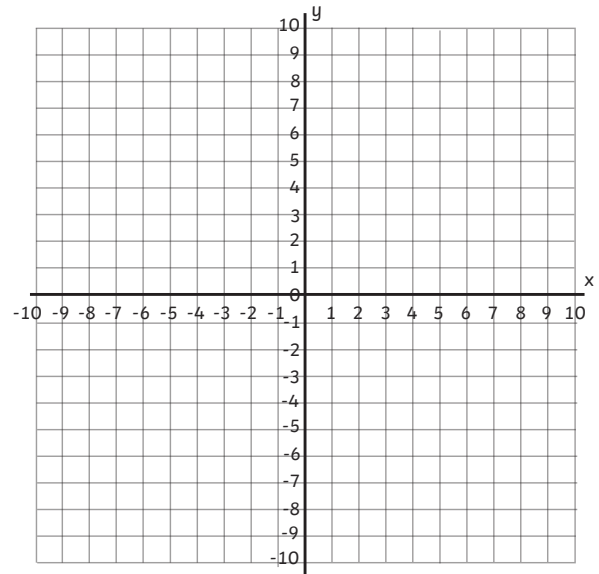
Plot these co-ordinates to reveal a shape:  $(-8, -5)$ ,  $(-4, -5)$ ,  $(-4, -3)$ ,  $(-6, -3)$ ,  $(-6, 3)$ ,  $(-8, 3)$



Translate the shape right 3, down 2.

What are the co-ordinates of the new shape?

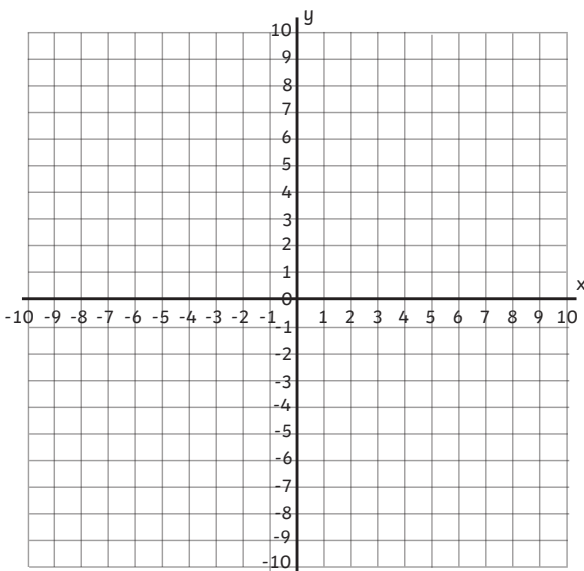
Plot these co-ordinates to reveal a shape:  $(-2, -6)$ ,  $(-5, -2)$ ,  $(-8, -6)$ ,  $(-5, -10)$



Translate the shape right 6, up 9.

What are the co-ordinates of the new shape?

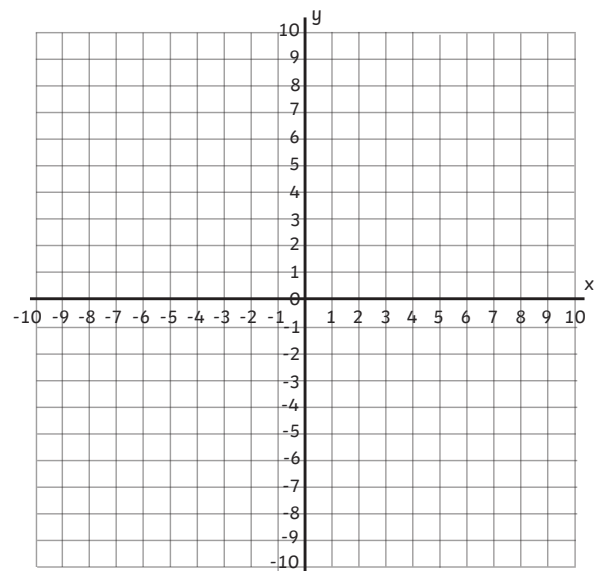
Plot these co-ordinates to reveal a shape:  $(5, 3)$ ,  $(8, 3)$ ,  $(9, 5)$ ,  $(8, 7)$ ,  $(5, 7)$ ,  $(4, 5)$



Translate the shape left 9, down 5.

What are the co-ordinates of the new shape?

Plot these co-ordinates to reveal a shape:  $(-3, -1)$ ,  $(-5, 2)$ ,  $(-7, 5)$ ,  $(-3, 5)$ ,  $(-7, -1)$



Translate the shape left 3, up 5.

What are the co-ordinates of the new shape?

# 2D Shape Translations Answers

Describe the positions and translations of the 2D shapes.

Starting co-ordinates: **(1,1), (3,1), (2,2)**

Translation: **Left 6, up 2**

Finishing co-ordinates:  
**(-5,3), (-3,3), (-4, 4)**

Starting co-ordinates:

**(-6,1), (-3,1), (-3,3), (-6,3)**

Translation: **Right 8, up 2**

Finishing co-ordinates:  
**(2,3), (5,3), (5,5), (2,5)**

Starting co-ordinates:

**(-7, 2), (-2,2), (-2, 3), (-7,3)**

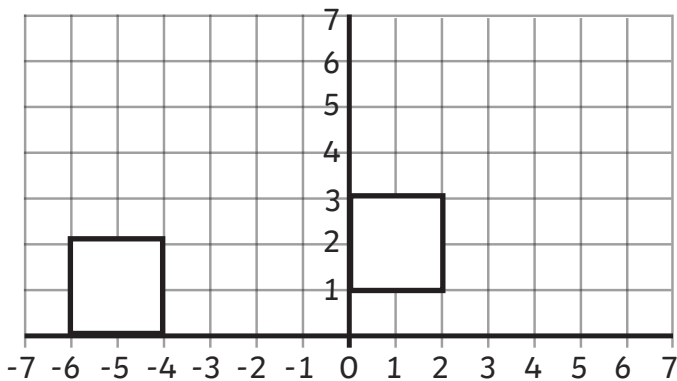
Translation: **Right 8, down 1**

Finishing co-ordinates:  
**(1,1), (6,1), (6,2), (1,2)**

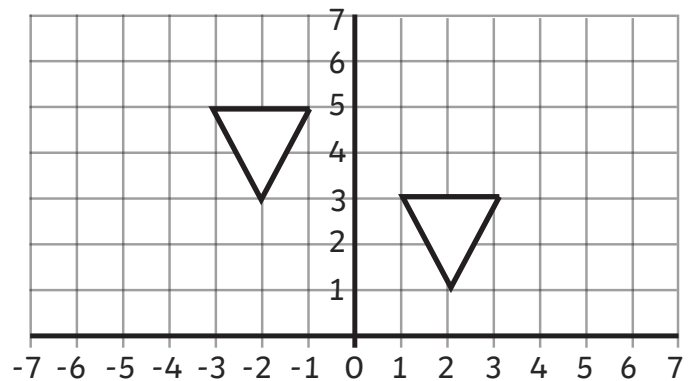
Starting co-ordinates: **(-2,1), (2,1), (0,5)**

Translation: **Right 3, up 1**

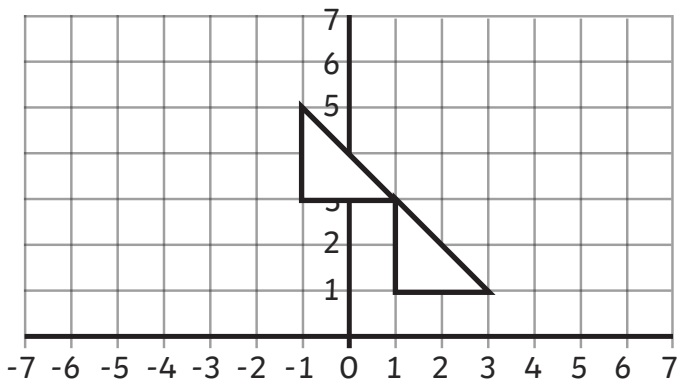
Finishing co-ordinates: **(1,2), (5,2), (3,6)**



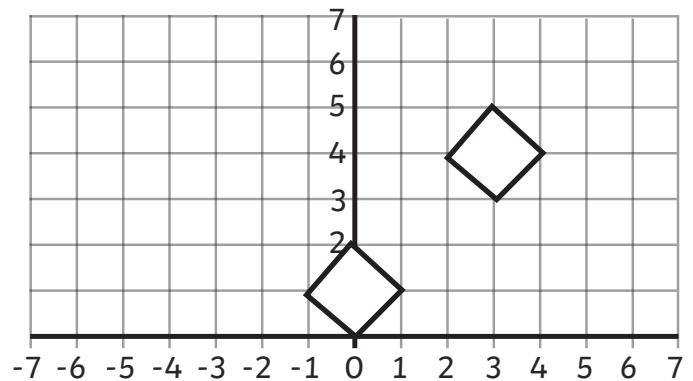
What are the co-ordinates of the new shape? **(-6, 0), (-4, 0), (-4,2), (-6, 2)**



What are the co-ordinates of the new shape? **(2,1), (3,3), (1,3)**



What are the co-ordinates of the new shape? **(-1, 3), (1,3), (-1,5)**



What are the co-ordinates of the new shape? **(0,0), (1,1), (0,2), (-1, 1)**

# 2D Shape Translations Answers

Describe the positions and translations of the 2D shapes.

Starting co-ordinates:

**(1,1), (4,1), (4,3), (1,3)**

Translation: **Left 5, down 4**

Finishing co-ordinates:

**(-4,-3), (-1,-3), (-1,-1), (-4,-1)**

Starting co-ordinates:

**(-2,-1), (2,-1), (-2,3)**

Translation: **Left 3, down 3**

Finishing co-ordinates:

**(-5,-4), (-1,-4), (-5,0)**

Starting co-ordinates:

**(-2,2), (-1,3), (-2,4), (-3,3)**

Translation: **Right 3, down 5**

Finishing co-ordinates:

**(1,-3), (2,-2), (1,-1), (0,-2)**

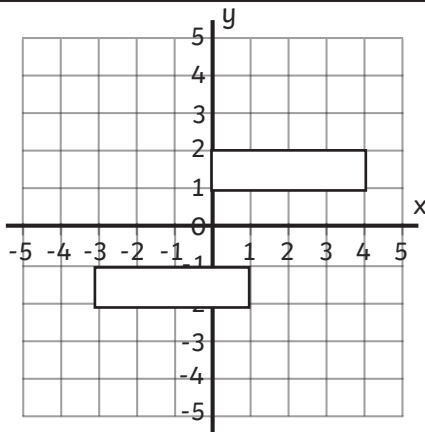
Starting co-ordinates:

**(-3,-1), (1,-1), (1,1), (-1,1), (-1,3), (-3,3)**

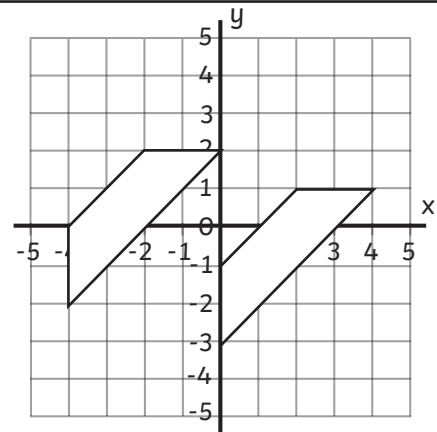
Translation: **Right 1, down 4**

Finishing co-ordinates:

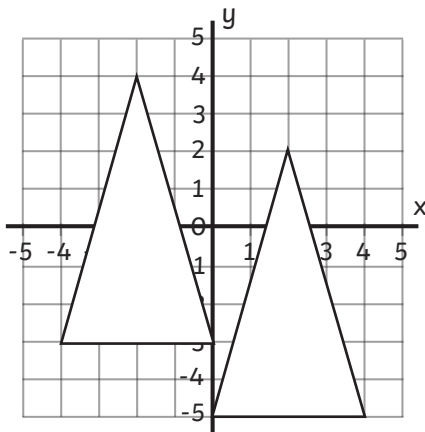
**(-2,-5), (2,-5), (2,-3), (0,-3), (0,-1), (-2,-1)**



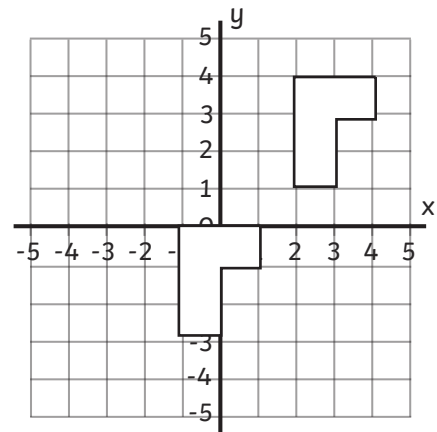
What are the co-ordinates of the new shape? **(0, 1), (4,1), (4,2), (0,2)**



What are the co-ordinates of the new shape? **(-2,2), (0,2), (-4,-2), (-4,0)**



What are the co-ordinates of the new shape? **(2,2), (0,-5), (4,-5)**



What are the co-ordinates of the new shape? **(-1,-3), (0,-3), (0,-1), (1,-1), (1,0), (-1,0)**



# 2D Shape Translations Answers

Describe the positions and translations of the 2D shapes.

Starting co-ordinates:  $(-4,1)$ ,  $(0,1)$ ,  $(-2,6)$

Translation: **Right 9, down 11**

Finishing co-ordinates:  
 $(5,-10)$ ,  $(9,-10)$ ,  $(7,-5)$

Starting co-ordinates:  
 $(-7,-4)$ ,  $(-1,-4)$ ,  $(-1,-2)$ ,  $(-7,-2)$

Translation: **Right 5, up 7**

Finishing co-ordinates:  
 $(-2,3)$ ,  $(4,3)$ ,  $(4,5)$ ,  $(-2,5)$

Starting co-ordinates:  $(3,0)$ ,  $(4,0)$ ,  $(4,2)$ ,  
 $(5,2)$ ,  $(5,3)$ ,  $(4,3)$ ,  $(4,5)$ ,  $(3,5)$ ,  $(3,3)$ ,  
 $(2,3)$ ,  $(2,2)$ ,  $(3,2)$

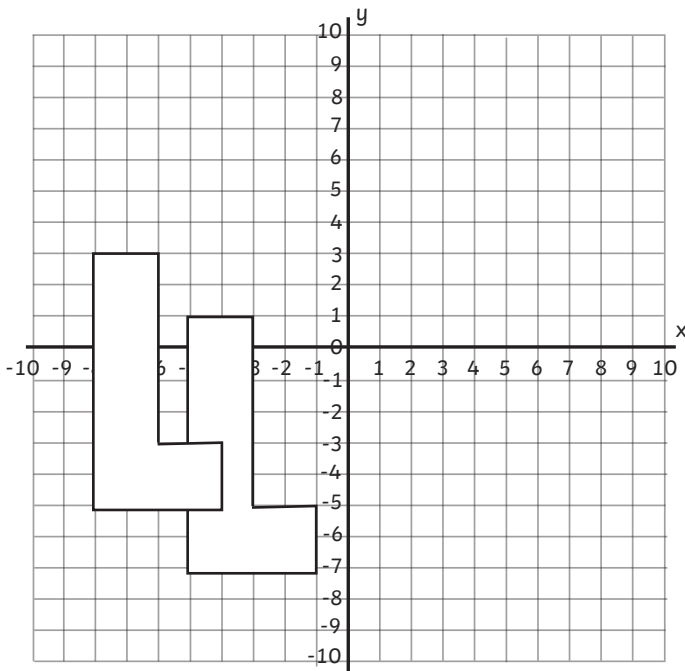
Translation: **Left 10, down 4**

Finishing co-ordinates:  $(-7,-4)$ ,  $(-6,-4)$ ,  
 $(-6,-2)$ ,  $(-5,-2)$ ,  $(-5,-1)$ ,  $(-6,-1)$ ,  $(-6,1)$ ,  
 $(-7,1)$ ,  $(-7,-1)$ ,  $(-8,-1)$ ,  $(-8,-2)$ ,  $(-7,-2)$

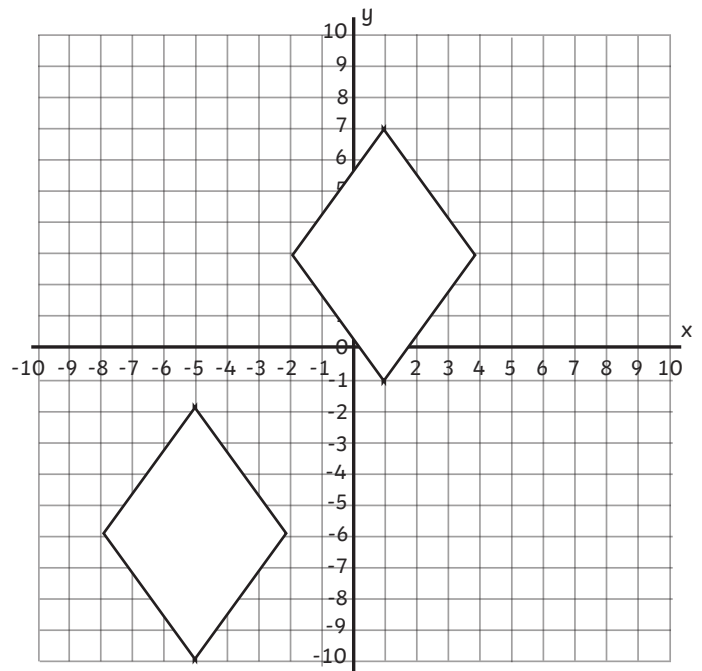
Starting co-ordinates:  
 $(-5,1)$ ,  $(-3,1)$ ,  $(-2,6)$ ,  $(-6,6)$ ,

Translation: **Right 9, down 8**

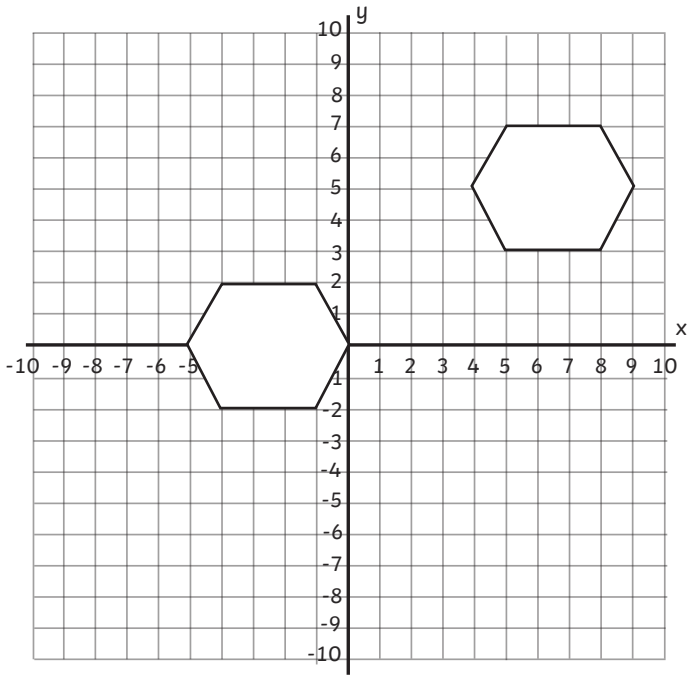
Finishing co-ordinates:  
 $(4,-7)$ ,  $(6,-7)$ ,  $(7,-2)$ ,  $(3,-2)$



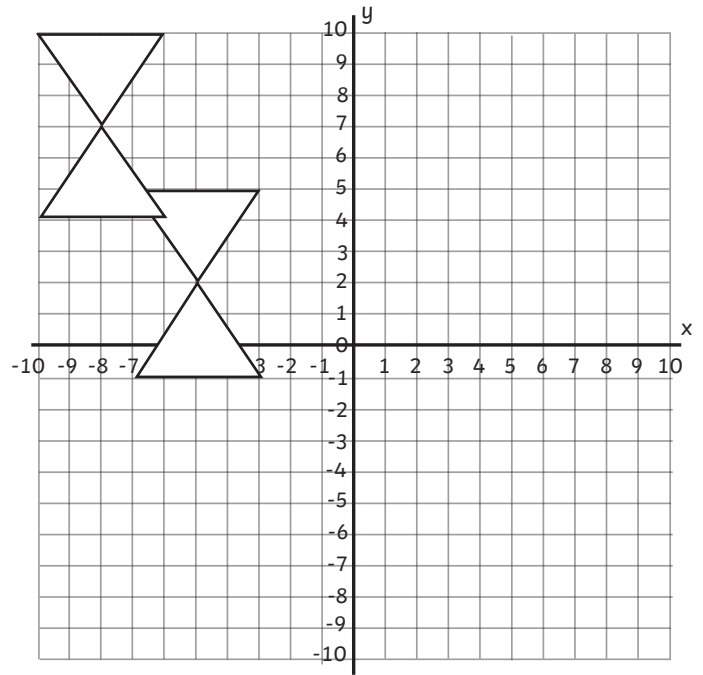
What are the co-ordinates of the new shape?  
 $(-5,-7)$ ,  $(-1,-7)$ ,  $(-1,-5)$ ,  $(-3,-5)$ ,  
 $(-3,1)$ ,  $(-5,1)$



What are the co-ordinates of the new shape?  
 $(4,3)$ ,  $(1,7)$ ,  $(-2,3)$ ,  $(1,-1)$



What are the co-ordinates of the new shape?  
 **$(-4, -2)$ ,  $(-1, -2)$ ,  $(0, 0)$ ,  $(-1, 2)$ ,  $(-4, 2)$ ,  $(-5, 0)$**



What are the co-ordinates of the new shape?  
 **$(-6, 4)$ ,  $(-8, 7)$ ,  $(-10, 10)$ ,  $(-6, 10)$ ,  $(-10, 4)$**