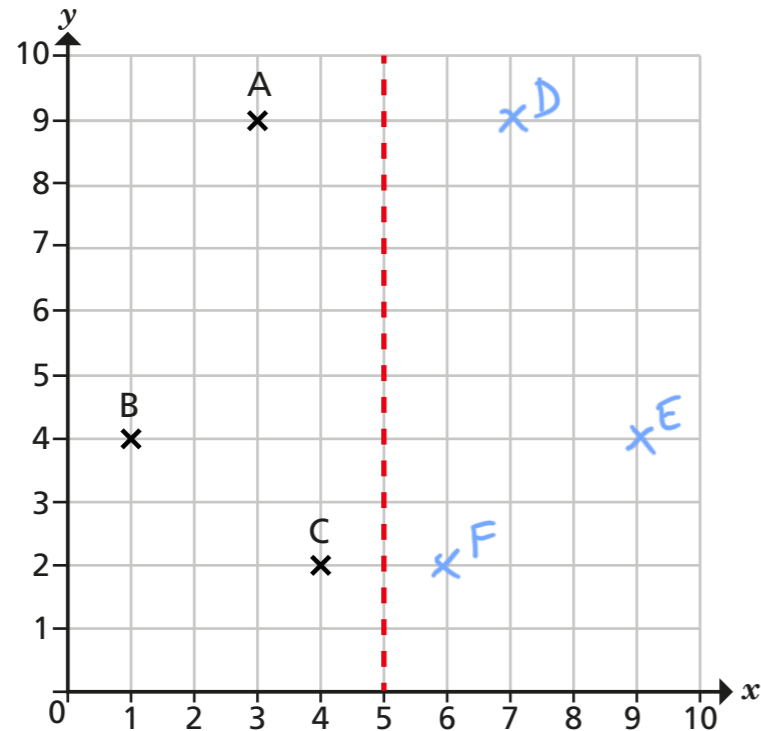


# Reflection with coordinates

1 Three points, A, B and C, are shown on the coordinate grid.



a) Write the coordinates of point A.  
Reflect point A in the mirror line.  
Label this new point D.

( 3 , 9 )

Write the coordinates of point D.

( 7 , 9 )

b) Write the coordinates of point B.  
Reflect point B in the mirror line.  
Label this new point E.

( 1 , 4 )

Write the coordinates of point E.

( 9 , 4 )

c) Write the coordinates of point C.  
Reflect point C in the mirror line.  
Label this new point F.

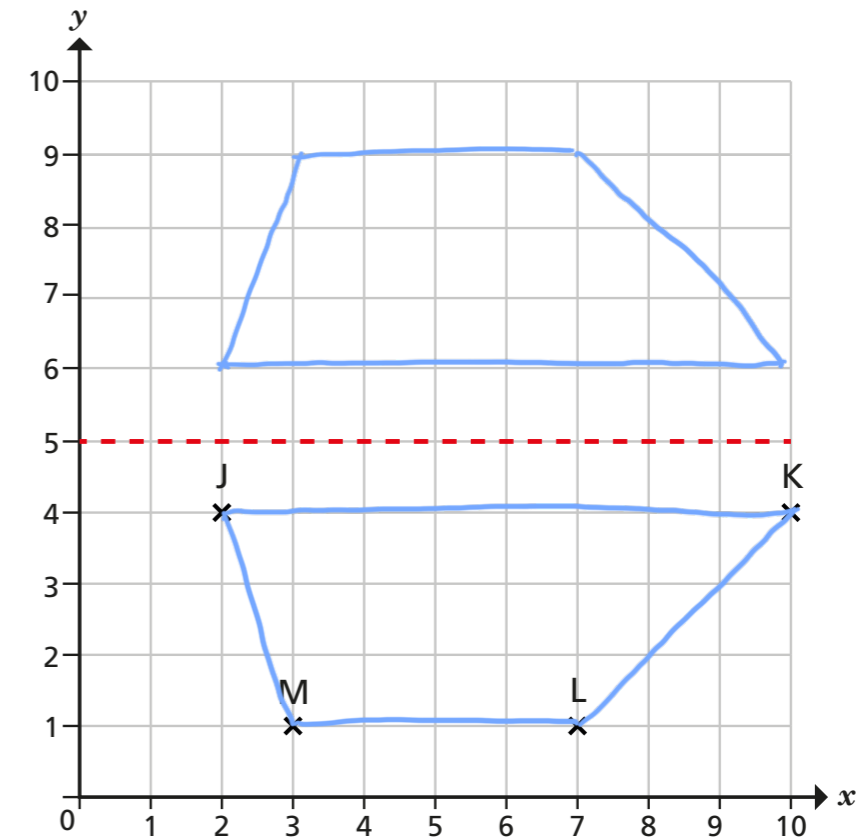
( 4 , 2 )

Write the coordinates of point F.

( 6 , 2 )

What do you notice? Talk about it with a partner.

2 Four points are plotted on the coordinate grid.



a) Join the points to form a trapezium.

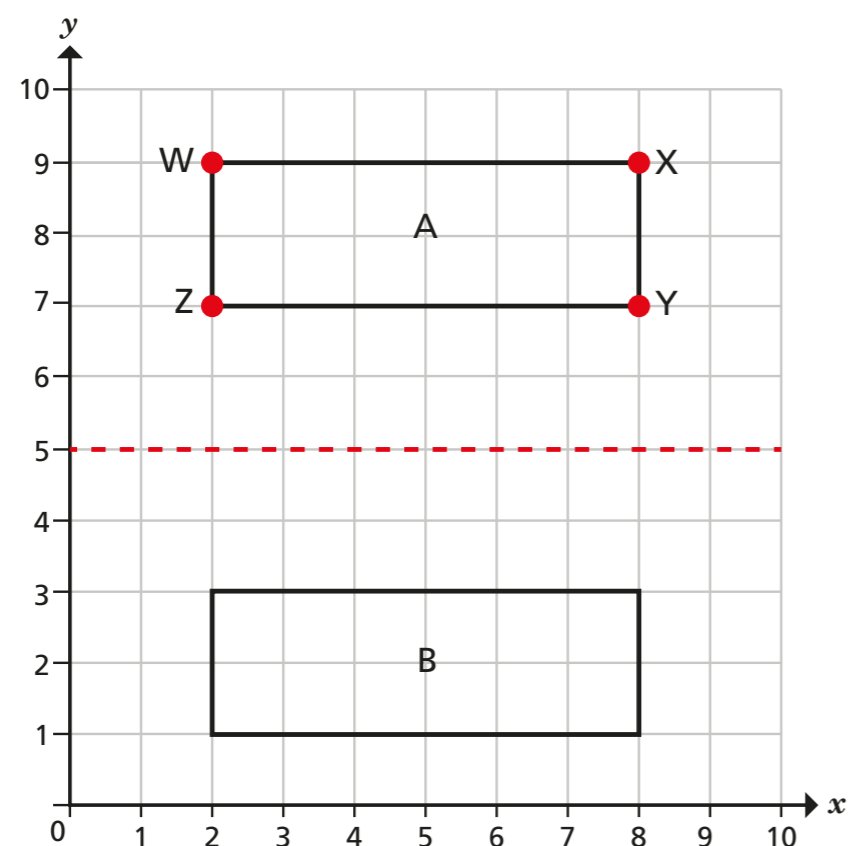
b) Reflect the trapezium in the given mirror line.

c) Complete the table to show the coordinates of each point before and after the reflection.

Vertex	Coordinate before reflection	Coordinate after reflection
J	(2, 4)	(2, 6)
K	(10, 4)	(10, 6)
L	(7, 1)	(3, 9)
M	(3, 1)	(7, 9)

What do you notice about the coordinates?

- 3 Object A is reflected in the mirror line to give image B.



Complete the table to show the coordinates of each vertex of the object and the image.

Vertex	Coordinate before reflection	Coordinate after reflection
W	(2, 9)	(2, 1)
X	(8, 9)	(8, 1)
Y	(8, 7)	(8, 3)
Z	(2, 7)	(2, 3)

What do you notice about the coordinates?

- 4 These are the coordinates of the vertices of a pentagon.

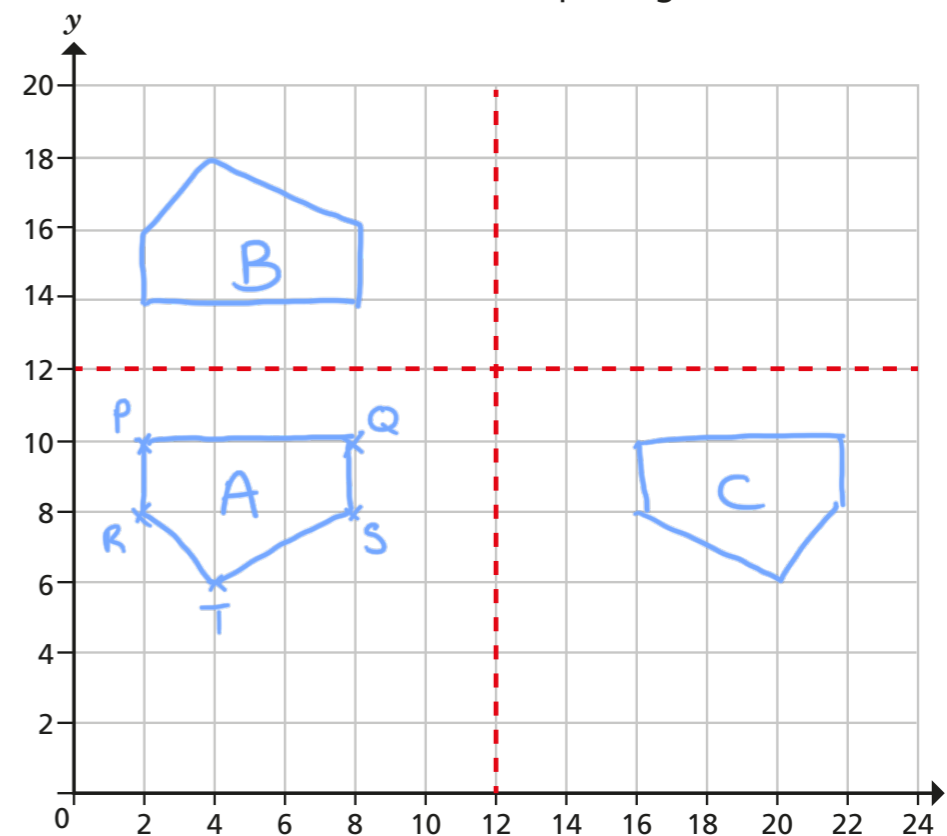
P (2, 10)

Q (8, 10)

R (2, 8)

S (8, 8)

T (4, 6)



- Draw the pentagon on the coordinate grid. Label this pentagon A. This is the object.
- Reflect the object in the horizontal mirror line. Label this image B.
- Reflect the object in the vertical mirror line. Label this image C.
- Complete the table to show the vertices of the object and the images.

Vertex	Coordinate (object)	Coordinate (image B)	Coordinate (image C)
P	(2, 10)	(2, 14)	(22, 10)
Q	(8, 10)	(8, 14)	(16, 10)
R	(2, 8)	(2, 16)	(22, 8)
S	(8, 8)	(8, 16)	(16, 8)
T	(4, 6)	(4, 18)	(20, 6)

Compare answers with a partner. What do you notice?

