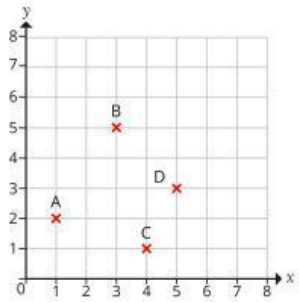
Translation with coordinates

White Rose MATHS

1 Four points have been plotted on a coordinate grid.



a) Translate each point 3 squares to the right.

b) Complete the table to show the coordinates of each point before and after the translation.

Point	Coordinates before	Coordinates after
A		
B		
C		
D		

c) Which coordinate stayed the same? _____

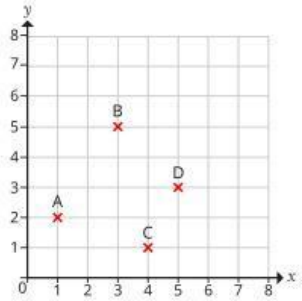
d) Which coordinate changed? _____

e) Point E has the coordinates (12, 4).

It is translated 3 squares to the right.

What are the coordinates of the translated point? (☐ , ☐)

2 Four points have been plotted on a coordinate grid.



a) Translate each point 2 squares up.

b) Complete the table to show the coordinates of each point before and after the translation.

Point	Coordinates before	Coordinates after
A		
B		
C		
D		

What do you notice?

c) Which coordinate stayed the same? _____

d) Which coordinate changed? _____

e) Point E has the coordinates (12, 4).

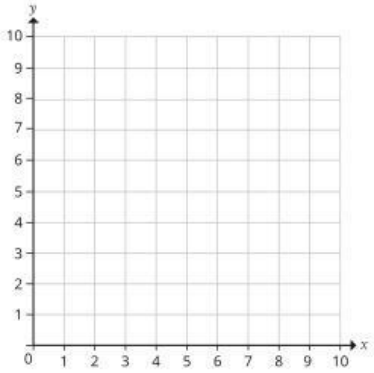
It is translated 2 squares up.

What are the coordinates of the translated point? (☐ , ☐)

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3 Write the coordinates of each point after the given translation.

You can use the coordinate grid to help you.



a) (2, 7) is translated 4 squares right and 3 squares down. (,)

b) (9, 2) is translated 8 squares left and 5 squares up. (,)

c) (10, 0) is translated 10 squares left. (,)

d) (0, 4) is translated 6 squares right and 4 squares down. (,)

Is it possible to work these out without drawing the points?

4 The coordinates of the vertices of a rectangle are (18, 4), (18, 7), (23, 4) and (23, 7).

The rectangle is translated 10 squares left and 2 squares down.

What are the coordinates of the vertices now?

(,) (,) (,) (,)

5 Point M has the coordinates (12, 19).

It is translated 21 squares right and 9 squares down.

Alex and Amir are working out the coordinates of the translated points. Here are their answers.

Alex (3, 38) **Amir** (33, 10)

Who do you agree with? _____

Talk about it with a partner.

6 Point X has the coordinates (17, 21).

After being translated, it has the coordinates (11, 35).

Describe the translation.

_____

7 A pentagon has been translated.

The table shows the coordinates of each vertex before and after the translation. Some of the information is missing.

Before	After
(, 7)	(5, 13)
(2,)	(5, 20)
(11, 7)	(14,)
(, 14)	(14,)
(,)	(10, 25)

a) Complete the table.

b) Describe the translation.

_____

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