Hello again Year 5,

I hope you found the work on co-ordinates and reflections easy to follow.

Today we are going to look at 'Translation'.

This is our last session, so I hope you have a lovely summer holidays and i look forward to seeing you all in September.
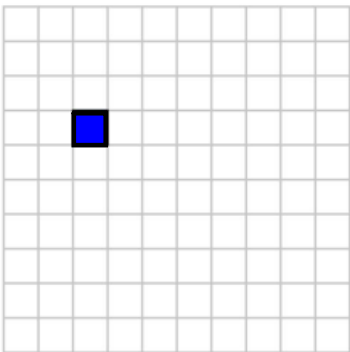
Jul 9-11:56

In geometry translation means moving a shape into a different position, without changing it in any way. In Year 5 children are introduced to shape translation by giving them shapes on squared paper; they then need to be moved a certain number of squares up, down, left or right.
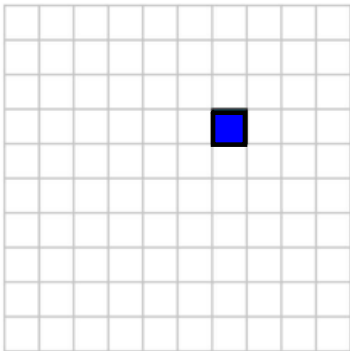
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1 Complete the translations.
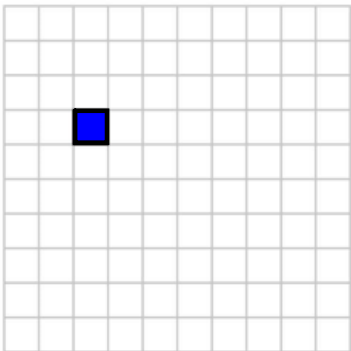
a) Translate the shape
4 squares to the right.

b) Translate the shape
2 squares up.

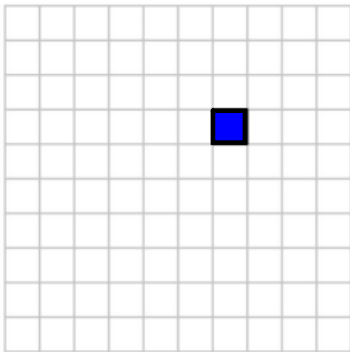© White Rose Maths 2020

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1 **c)** Translate the shape
4 squares right, 2 squares up.

d) Translate the shape 3
squares left, 5 squares down.

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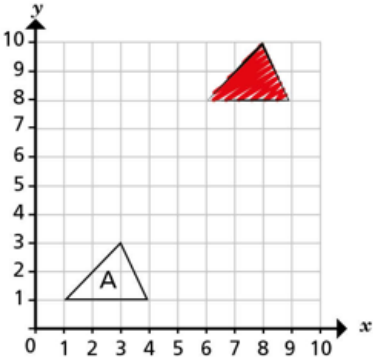Jul 9-12:06

✗

2 Four shapes have been drawn on a grid.
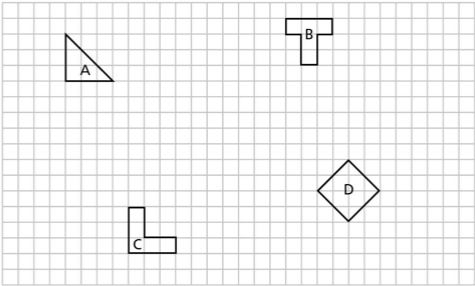
a) Translate shape A 5 squares to the right and 3 squares down.

b) Translate shape B 4 squares to the left and 7 squares down.

c) Translate shape C 6 squares to the left.

d) Translate shape D 4 squares to the right and 8 squares up.

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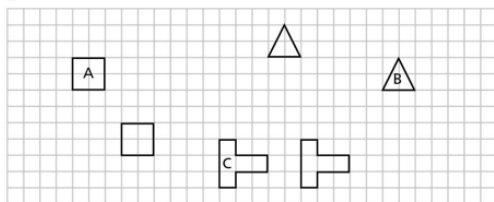**3** Dora has translated triangle A 2 squares to the right and 7 squares up.

Is Dora's drawing correct? _____
Explain why.

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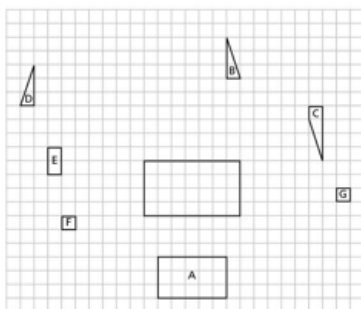**4** Complete the sentences to describe the translations.

a) Shape A has been translated ☐ squares to the right and ☐ squares down.

b) Shape B has been translated ☐ squares to the _____ and ☐ squares _____

c) Shape C has been translated ☐ squares to the _____ and ☐ squares _____

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6 Eight polygons are drawn on the grid.

a) Translate shape A 10 squares up.

b) Translate shape B 6 squares down.

c) Translate shape C 6 squares left.

d) Translate shape D 9 squares to the right and 4 squares down.

e) Translate shape E 10 squares to the right and 3 squares down.

f) Translate shape F 7 squares to the right and 3 squares up.

g) Translate shape G 9 squares to the left and 1 square up.

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1 Four points have been plotted on a coordinate grid.
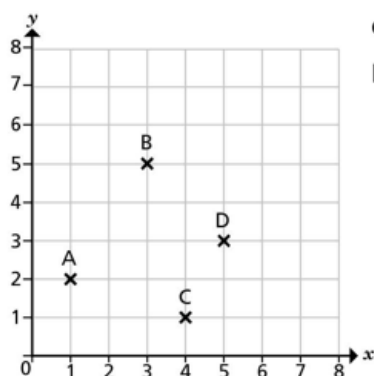
a) Translate each point 3 to the right.

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

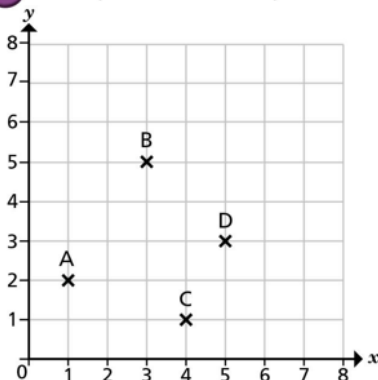| Point	Coordinates before	Coordinates after
A		
B		
C		
D		

What do you notice

1 c) Which part of the coordinate stayed the same?   _____

d) Which part of the coordinate changed?   _____

e) Point E has the coordinates (12, 4). It is translated 3 to the right.

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

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2 Four points have been plotted on a coordinate grid.

a) Translate each point 2 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?

2 c) What has stayed the same in each coordinate?   _____

d) What has changed?   _____
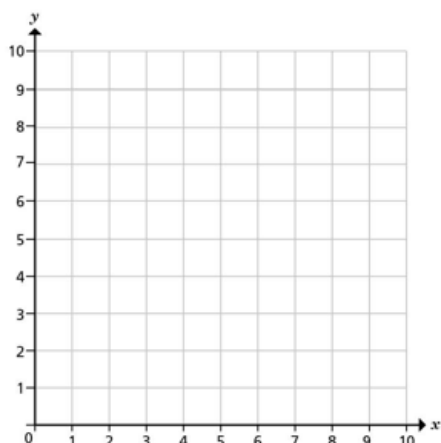
e) Point E has the coordinates (12, 4).

It is translated 2 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 right and 3 down.

(☐ , ☐)

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

(☐ , ☐)

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

(☐ , ☐)

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

(☐ , ☐)

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

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

The rectangle is translated 10 left and 2 down.

What are the coordinates of the vertices now?

(☐ , ☐)   (☐ , ☐)   (☐ , ☐)   (☐ , ☐)

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