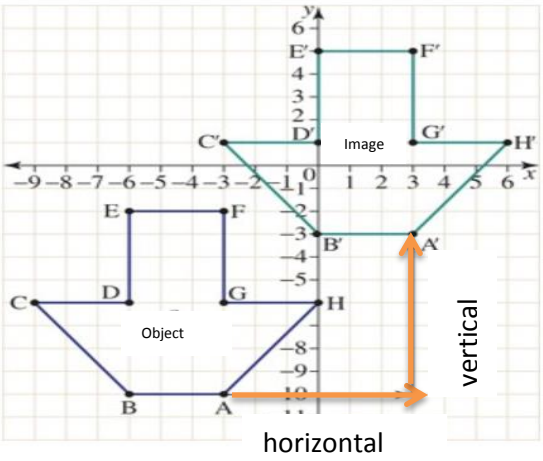
Craigieburn Secondary College

Best Practice – BP#2 – Location & Transformations

AusVELS 7.0 ***Students will be able to describe translations in an axis on the Cartesian Plane.***

*****Ensure a worksheet on coordinates is given to students prior to this lesson.**

Step 1	Write out the question. Include a clear and labelled diagram of the shapes – object and image - on the labelled Cartesian Plane. ***Indicate*** ➢ A translation is the movement of an object up, down, left or right. ➢ The original shape is called the <u>object.</u> ➢ The translated shape is called the <u>image</u>. ➢ The translation symbols can be written as: R = Right U = UP D = Down L = Left ➢ Translations to the ***right*** are treated as ***positive***. ➢ Translations to the ***left*** are treated as ***negative***. ➢ Translations ***down*** are treated as ***negative***. ➢ Translations ***up*** are treated as ***positive***. ➢ A vertex is where two lines meet.	 **Describe the translation of object ABCDEFGH to image A'B'C'D'E'F'G'H'.**
Step 2	List the co-ordinates of each vertex in the **<u>object.</u>** List the co-ordinates of each vertex in the **<u>image.</u>** ***Indicate*** ➢ *Co-ordinates are written in brackets separated by a comma.*	A (-3, -10) B (-6,-10) C (-9,-6) D (-6,-6) E (-6, -2) F (-3, -2) G(-3, -6) H (0, -6) A' (3, -3) B (0, -3) C' (-3, 1) D' (0, 1) E' (0, 5) F' (3, 5) G'(3, 1) H' (6, 1)
Step 3	Select any vert ex of the original shape ABCDEFGH. Label corresponding point on the image as A'. ***Indicate*** ➢ The vertex A is a good choice since it is on the grid line & the co-ordinates are easy to identify.	**See Step 1 diagram.** **Point selected is A (-3, -10).**
Step 4	From A draw a horizontal line until it is directly below A' then draw a vertical line so it meets A'. Include these two lines on the original diagram from Step 1.	**See Step 1 diagram.**
Step 5	Count the number of units the vertex A has moved across to the right in the positive direction. Count the number of units vertex A has moved up in the positive direction. Record the translation. Give a final statement to indicate the translation of the object to the image.	A has moved 6 units to the right and then 7 units up. **Translation of object ABCDEFGH to image A'B'C'D'E'F'G'H' is: 6 right 7 up (6R 7U).**
Step 6	Check the final translation against other object points. Select at least 3 other vertex points from the object. Check that when the translation is applied to each vertex the correct image vertex is found.	B(-6, -10) translated 6R 7U becomes B'(0, -3) F(-3, -2) translated 6R 7U becomes F'(3,5) D (-6, -6) translated 6R 7U becomes D'(0, 1)