SHQ: How do we enlarge a shape by a given scale factor?

Watch this YouTube clip which shows you how to enlarge shapes to a given scale factor:

https://www.youtube.com/watch?v=iKASqoBG-_s

You will notice that it doesn't matter where the enlarged shape is drawn on the grid, provided that the dimensions of the new shape are the correct length.

Now it's your turn.

Look at the four shapes on the grid on the next page; each shape is different and in each case you are asked to enlarge the shape to a given scale factor.

Using the method shown in the video clip that you have already watched; draw the enlarged shape on each grid, always checking that each side is multiplied by the correct number.

If you need to do any calculations to work out the length of sides on the enlarged shape, do your jottings at the side of the grid.

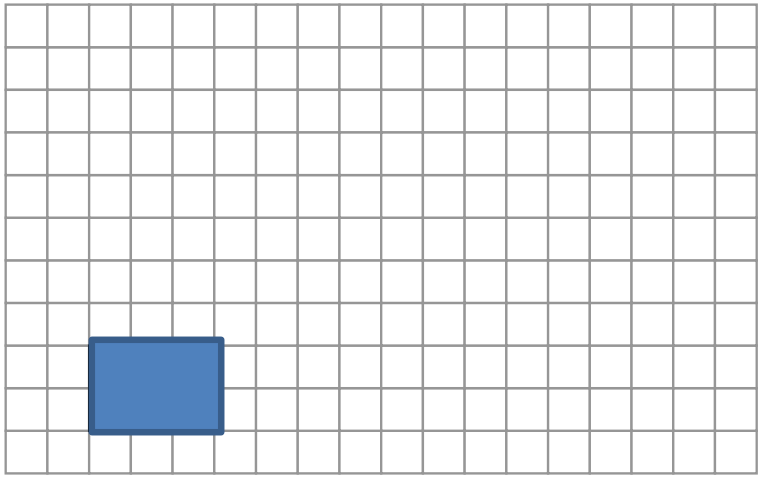
One each grid 'SF' means 'scale factor' so 'SF of 2' means enlarge the shape to a scale factor of 2.

SHQ: How do we enlarge a shape to a given scale factor ?

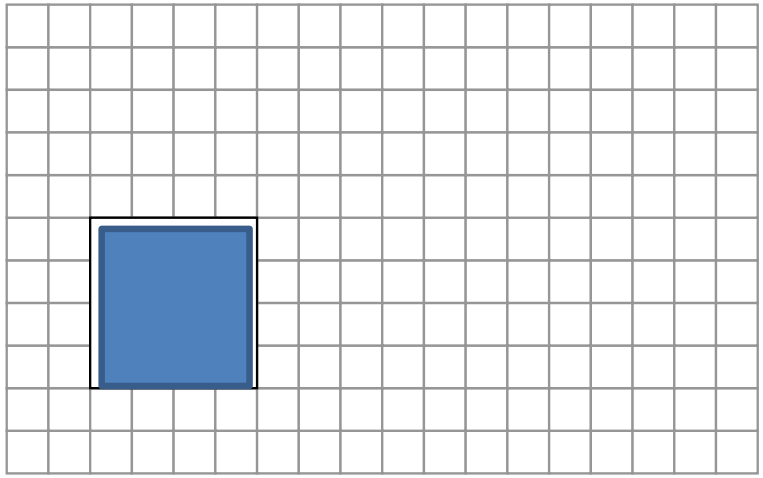
Enlargement

Enlarge each of these shapes using the given scale factor,

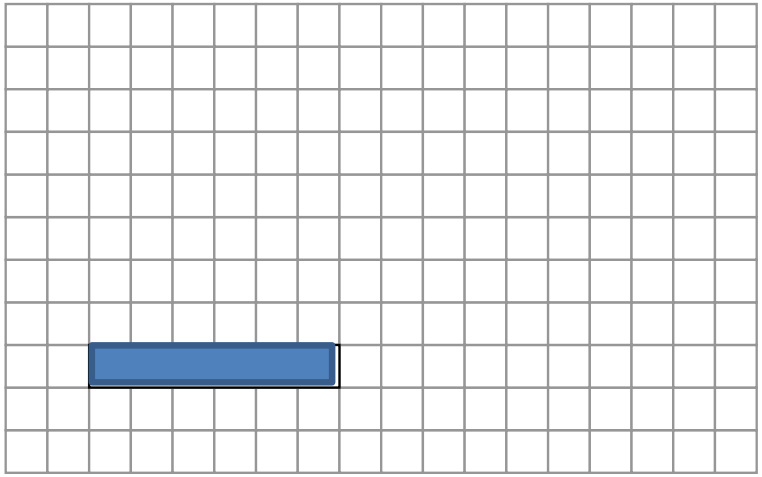
1) SF of 3



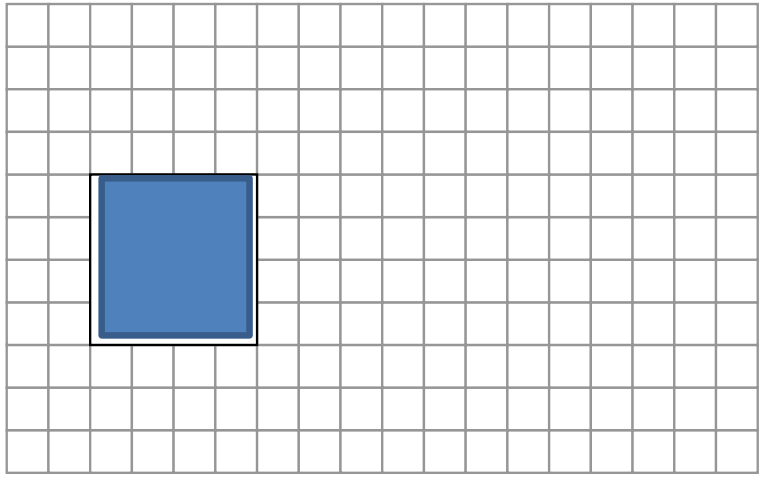
2) SF of 1.5



3) SF of 4



4) SF of 2



Challenge:

You may be asked to enlarge a shape from a a particular point. This is called enlarging a shape ‘from a centre’.

Watch the video clip which explains how to plot an enlarged shape from a given centre:

https://www.youtube.com/watch?v=f6nUEspH850

You will notice that when using a centre of an enlargement, it **does** matter where the enlarged shape is drawn on the grid as each ‘new’ vertex (corner) of the enlarged shape must be the correct distance away from the centre of enlargement.

Now it’s your turn.

Look at the four shapes on the grid on the next page; each shape is different and in each case you are asked to enlarge the shape to a given scale factor. For shapes 3 and 4 you need to use the centre of enlargement ‘P’.

Using the method shown in the video clip that you have already watched, draw the enlarged shape on each grid, always checking that each side is multiplied by the correct number. If you need to do any calculations to work out the length of sides on the enlarged shape, do your jottings at the side of the grid.

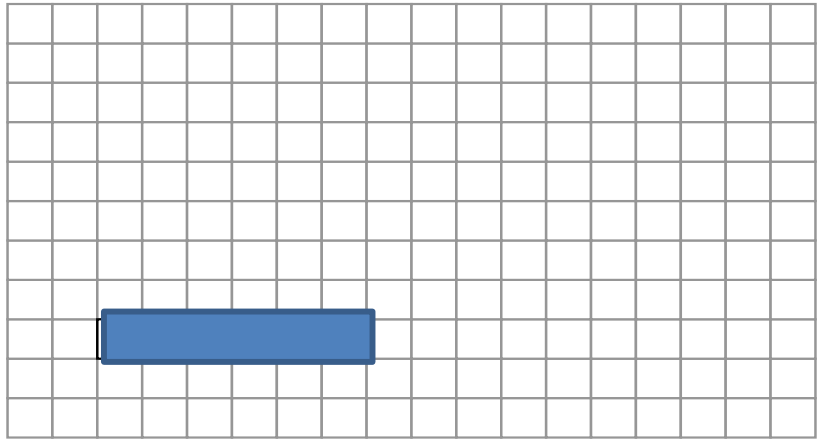
If you would like to have a go at some enlargements of your own, use the Worksheet 6 resource which includes three different sizes of squared grids. Try drawing a shape and enlarging it to your chosen scale factor. For a challenge, try choosing your own centre of enlargement and plotting the new shape on the grid.

SHQ: How do we nlarge a shape to a given scale factor (from a given centre of enlargement)?

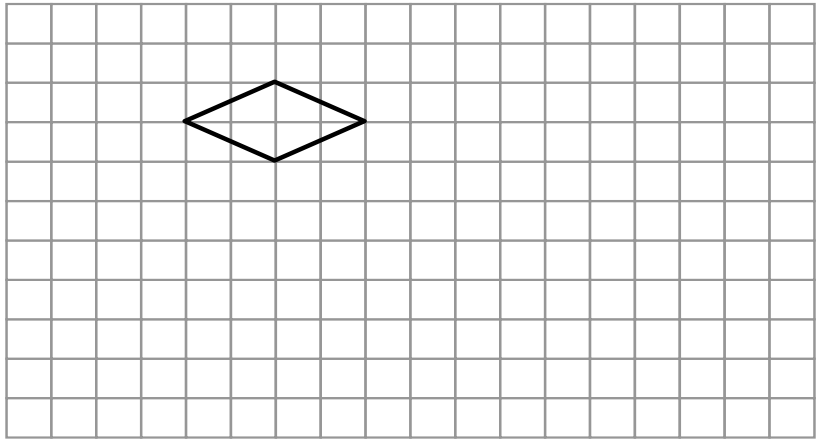
Enlargement

Enlarge each of these shapes using the given scale factor, use P for the centre of enlargement for Q3 and Q4.

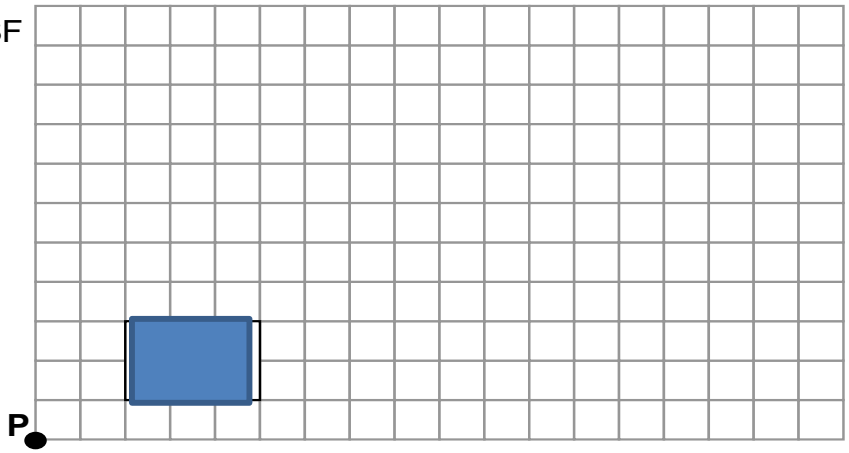
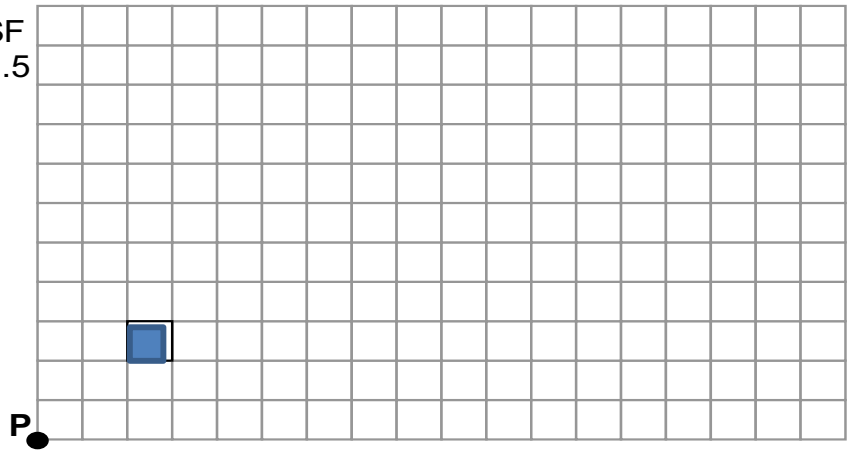
1) SF of 2.5



2) SF of 2



3) SF of 3



4) SF of 1.5