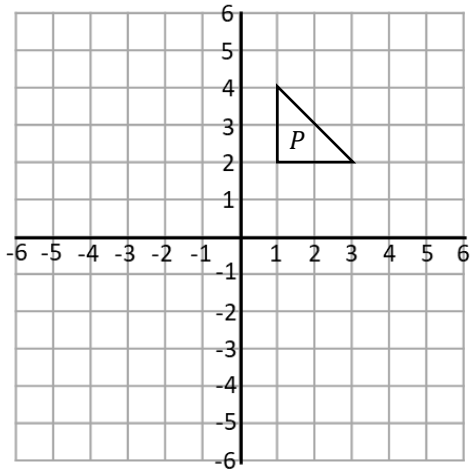
1. Factual recall



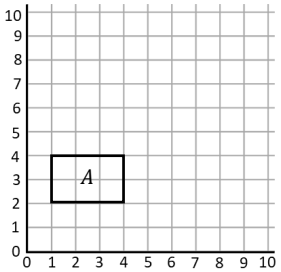
A Reflect shape P in the line $y = -1$.
Label this new shape Q.

B Translate shape Q in the vector $\begin{pmatrix} -4 \\ 2 \end{pmatrix}$
Label this new shape R.

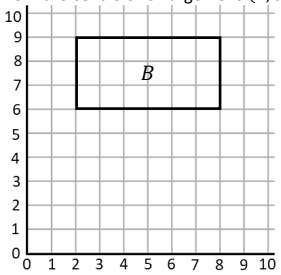
C Describe the single transformation that maps shape P onto shape R

2. Carry out a routine procedure

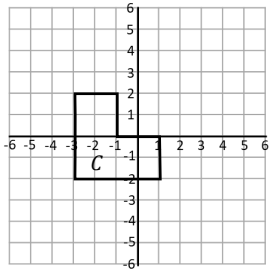
A Enlarge shape A by a scale factor of 2 from the centre of enlargement $(1, 1)$



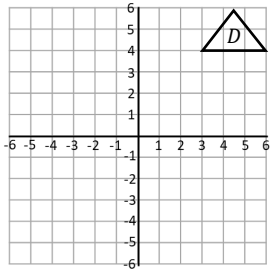
B Enlarge shape B by a scale factor of $\frac{1}{3}$ from the centre of enlargement $(2, 0)$



C Enlarge shape C by a scale factor of $\frac{3}{2}$ from the centre of enlargement $(-5, -6)$



D Enlarge shape D by a scale factor of -2 from the centre of enlargement $(2, 2)$

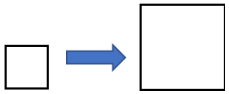


Enlargements

3. Classify some mathematical object

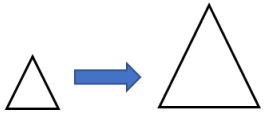
Determine whether the following are examples of enlargements or not.

A



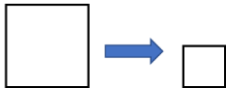
B

C



D

E

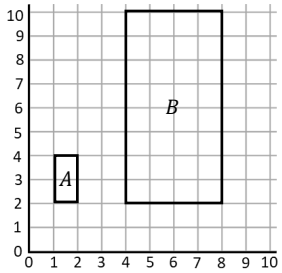


F

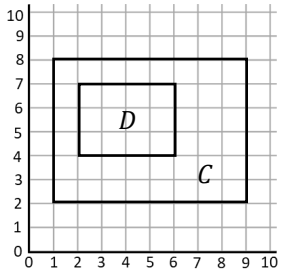
4. Interpret a situation or answer

Describe the following transformations that map...

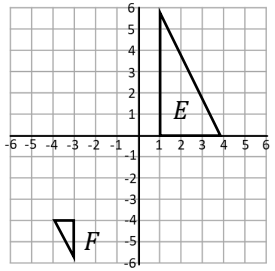
A Shape A to shape B



B Shape C to shape D



C Shape E to shape F



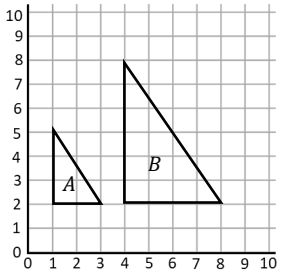
5. Prove, show, justify

Show that if I enlarge a rectangle by a scale factor k the perimeter of the shape also enlarges by a scale factor of k.

6. Extend a concept

By finding the areas of each shape, investigate the area scale factor. Write a statement describing your findings.

A Scale Factor = 2

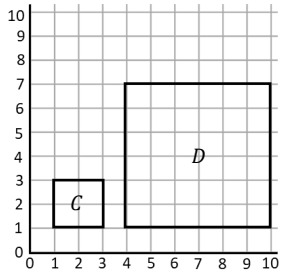


$Area\ A\ =$

$Area\ B\ =$

$Area\ Scale\ Factor\ =$

B Scale Factor = 3

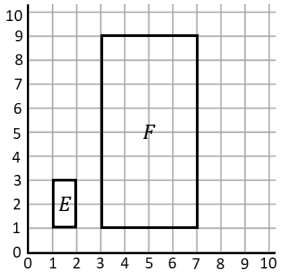


$Area\ C\ =$

$Area\ D\ =$

$Area\ Scale\ Factor\ =$

C Scale factor = 4



$Area\ E\ =$

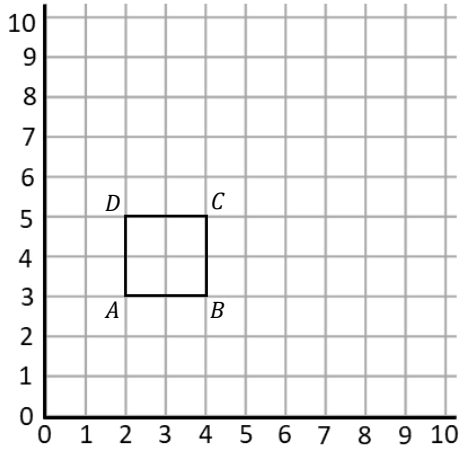
$Area\ F\ =$

$Area\ Scale\ Factor\ =$

Enlargements

7. Construct an instance

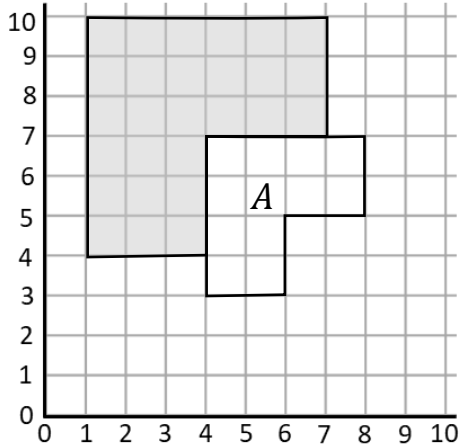
Create an enlargement for shape $ABCD$ that leaves point A **invariant**.



8. Criticise a fallacy

A student attempted the following question...

Enlarge shape A by a scale factor of $\frac{1}{2}$ *by centre of enlargement* $(10,1)$



Explain what this student has done wrong.