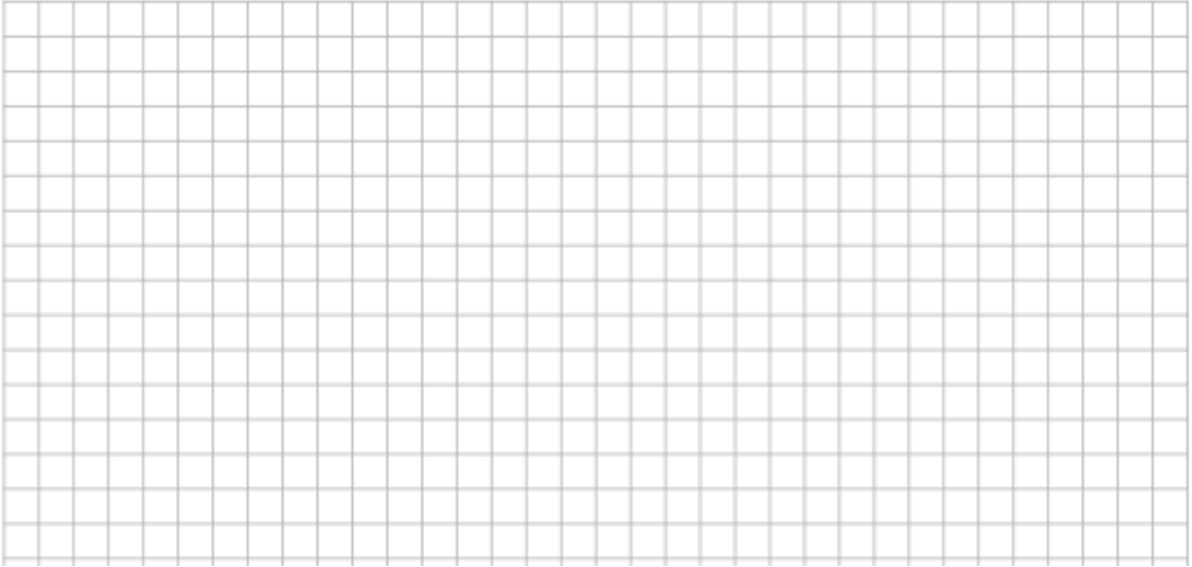


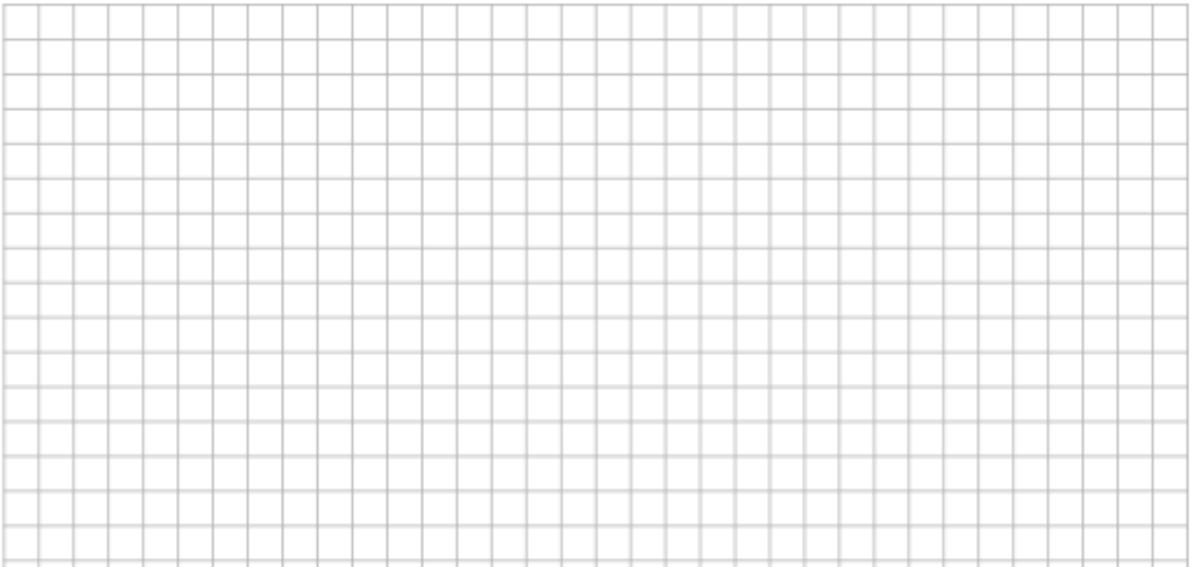
# Enlargements & Transformations

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Draw a shape which has exactly 3 axes of symmetry. Show the axes on the diagram.



Draw a shape which has exactly 2 axes of symmetry. Show the axes on the diagram.



$$\text{Scale factor } (k) = \frac{\text{Image length}}{\text{Object length}}$$

$$\text{Image area} = k^2 \times \text{Object area}$$

$$\text{Image volume} = k^3 \times \text{Object Volume}$$

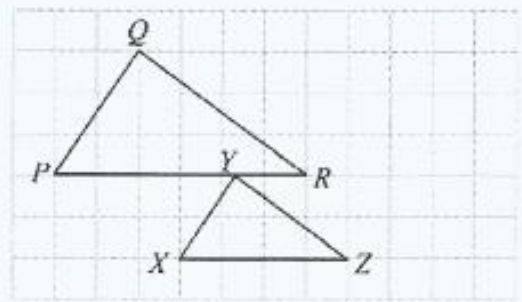
- (a) Construct the image of the shape under the enlargement with centre  $O$  and scale factor  $2.5$ .



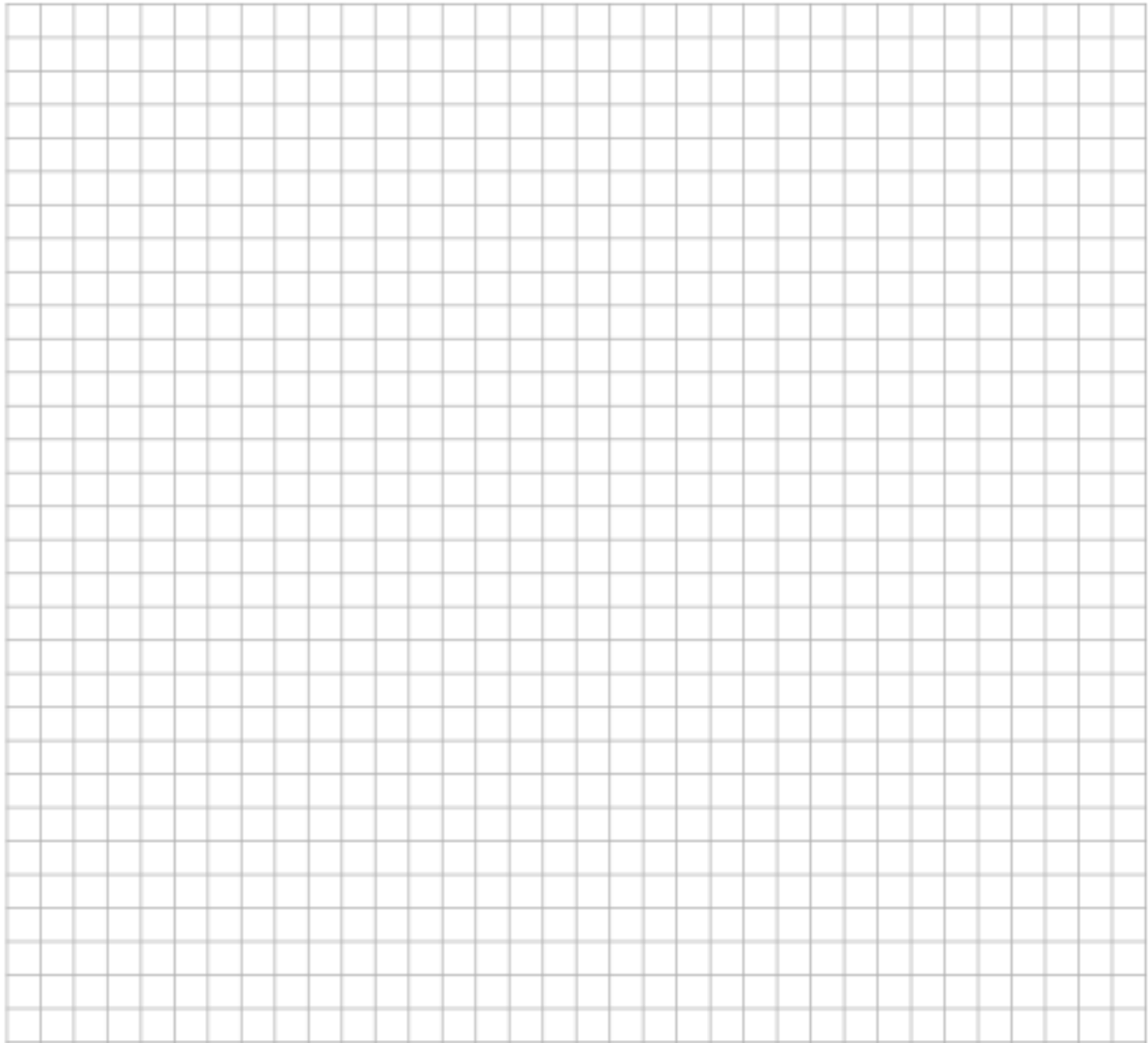
- (b) Given that the area of the original shape is  $3.5 \text{ cm}^2$ , find the area of the image.

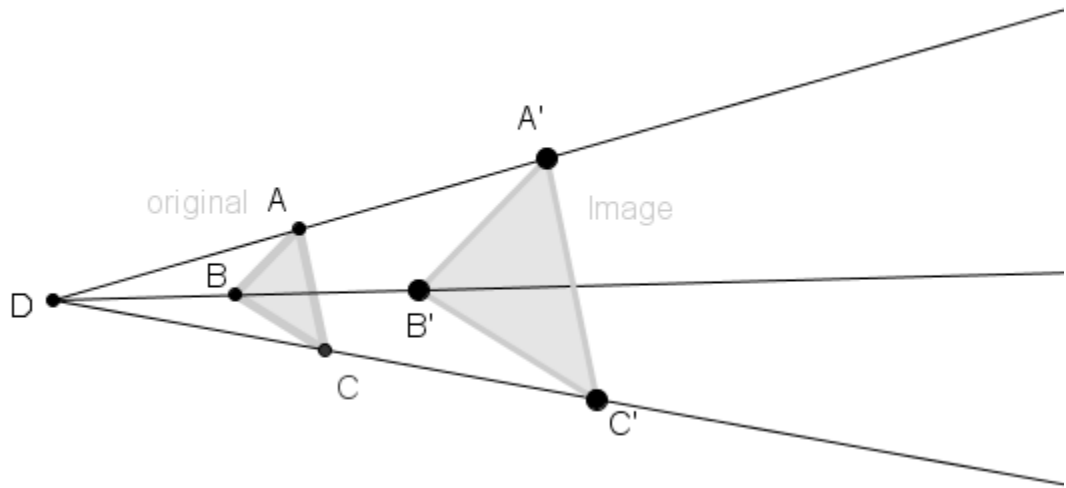


Two triangles are drawn on a square grid as shown. The points  $P$ ,  $Q$ ,  $R$ ,  $X$ , and  $Z$  are on vertices of the grid, and the point  $Y$  lies on  $[PR]$ . The triangle  $PQR$  is an enlargement of the triangle  $XYZ$ .



- Calculate the scale factor of the enlargement, showing your work.
- By construction or otherwise, locate the centre of enlargement on the diagram above.





1. What point is the centre of enlargement?

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2. When complete the table by measuring the lengths on the screen with a ruler.

AB		AC		BC	
A'B'		A'C'		B'C'	

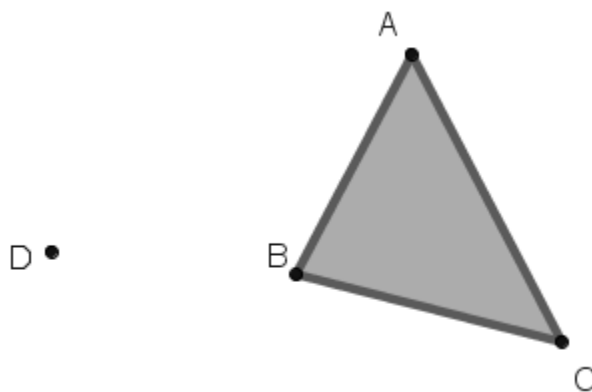
3. What is the scale factor in the above diagram?

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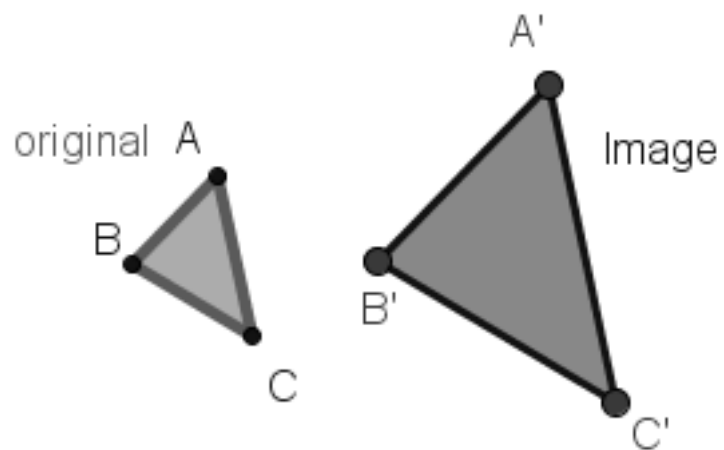
4. When the enlargement factor is 1, what will happen to the image?

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5. Find the image of the triangle ABC under an enlargement with D as centre and a scale factor of 2.



6. Find the centre of enlargement, if  $A'B'C'$  is the image of  $ABC$  under an enlargement.



7. If the scale factor is 2, find the lengths of the sides of the image:

