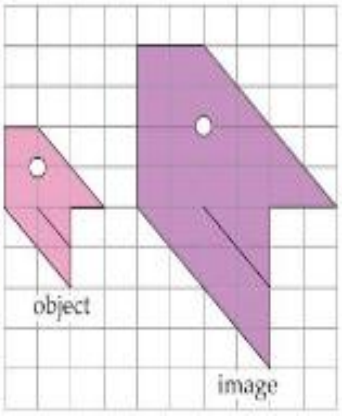
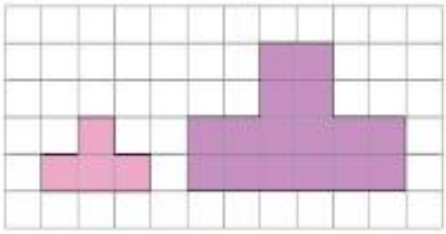
- An **enlargement** is a type of transformation. Enlargement alters the size of an **object**.
- To enlarge an object, you multiply its lengths by a **scale factor**. The angles of the shape do not change.
- You describe the size of an enlargement by giving the scale factor.



- In an enlargement, the object and the image are the same shape but a different size. They are **similar**.

Draw an enlargement of the pink shape using a scale factor of 2.

Start at one corner of the shape and work around, remembering that each length on the image is twice as long as the corresponding length on the object.

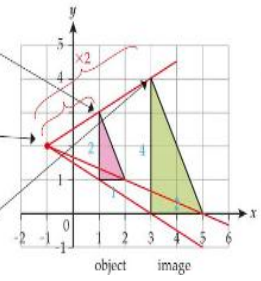


You enlarge a shape by multiplying the lengths of the shape by the **scale factor**. The position of the image is fixed if you use a **centre of enlargement**.

Draw lines from the centre of enlargement through the vertices of the object.

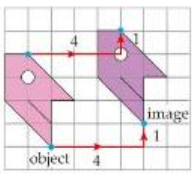
Always measure from the centre of enlargement.

Distance to image vertex = scale factor × distance to object vertex.



The enlargement is scale factor 2, using (-1, 2) as the centre of enlargement.

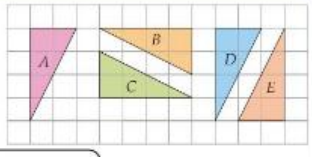
- A **translation** is a type of transformation that slides an **object**.
- You describe a translation by giving
  - the distance moved right or left, then
  - the distance moved up or down.



Here the shape has been translated 4 units to the right and 1 unit up. Notice the object and image are congruent.

Which triangle is a translation of triangle *A*?

Triangle *D*



Only D has been translated, all the other triangles have been rotated.