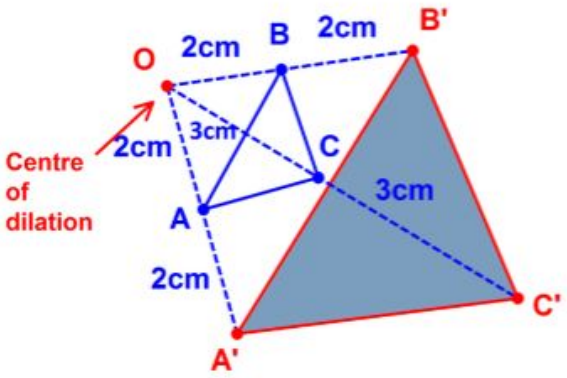
Dilation.

-_____is a _____ transformation that proportionally _____ or _____ a figure. c



$m\overline{OA} = 2cm$ $m\overline{OA'} = 4cm$

$m\overline{OB} = 2cm$ $m\overline{OB'} = 4cm$

$m\overline{OC} = 3cm$ $m\overline{OC'} = 6cm$

-A'B'C' is an _____ or ABC

-Dilation is defined by the **center of dilation (point O),** and the **scale factor <u>k</u>.**

-We can calculate the scale factor:

K= **K=** **K=**

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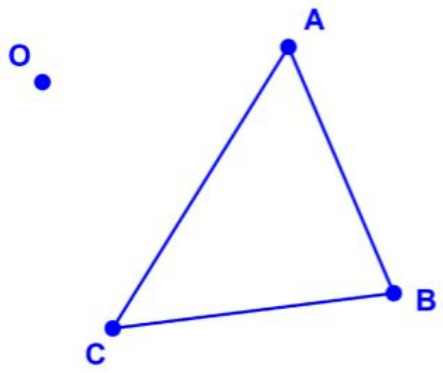
→ A _____ _____ of 2, means that sides of triangle A'B'C' is _____ as long as the sides to triangle ABC.

→ The expression we use to denote dilation is h(O,K)

-For dilations with a _____ scale factor, the image will always be on the _____ side of the centre of dilation as the original figure.

HOW TO CONSTRUCT THE IMAGE OF A DILATION



$m\overline{OA} = 4cm$

$m\overline{OB} = 6.8cm$

$m\overline{OC} = 4.4cm$

Draw the image of the triangle shown here by the dilation h(O, ½)

-Step 1: READ THE INSTRUCTIONS:

-Step 2: extend dotted lines starting from **point O** and passing through **point A.**

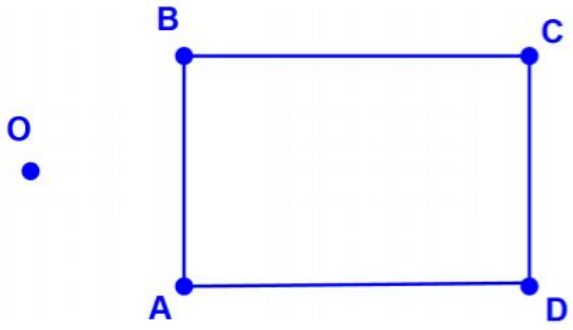
-Step 3: Locate the vertices of the image:

-Step 4: Locate A', B', and C' from **point O** and construct the image A'B'C'.

-Step 5: List all measure and confirm that they are ½ of the original distances.

Example 1:

Draw the image of the polygon below by the dilation $h(O, \frac{1}{2})$.



Example 2:

Given the dilation below, determine the position of the centre of dilation.