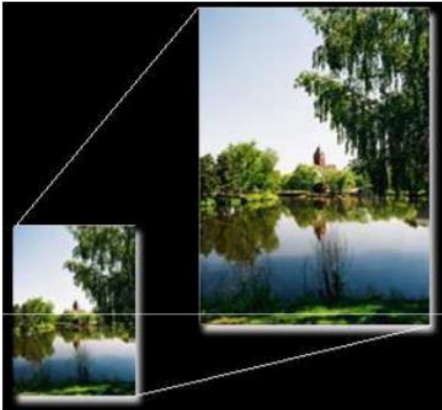


Enlargements



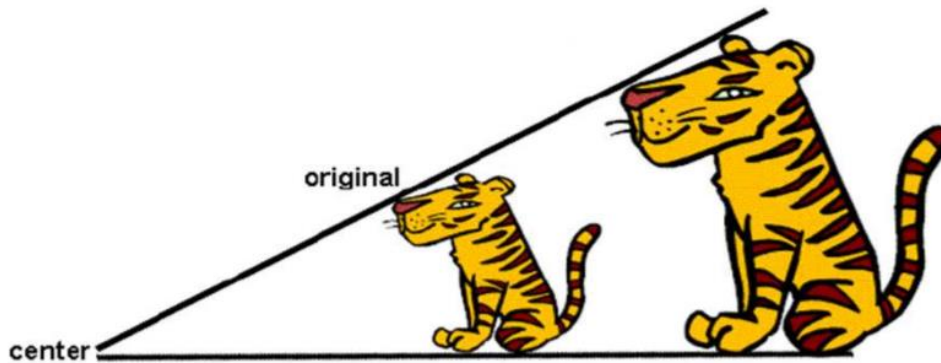
A **dilation** is a type of transformation which produces an image which is the **same shape** as the original object but is a **different size** i.e. It has the same proportions as the original object.

A dilation used to create an image larger than the original is called an **enlargement**.

A dilation used to create an image smaller than the original is called a **reduction**.



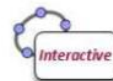
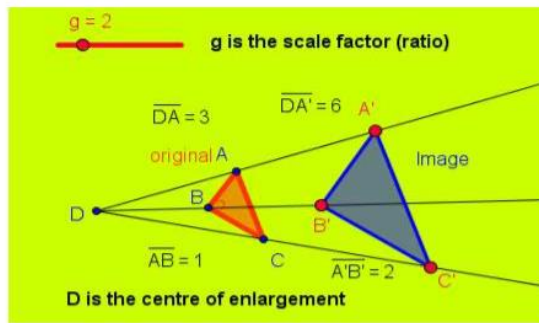
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An object and its image by an enlargement are **similar figures**.

- Angle measures remain the same
- Parallel lines remain parallel
- Distance is not preserved except where the scale factor is 1

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Enlargement 1



Enlargement 2

- **The length of each side of the image is equal to the length of the corresponding side of the original figure multiplied by the scale factor.**
- **The distance from the centre of the dilation to each point of the image is equal to the distance from the centre of the dilation to each corresponding point of the original figure times the scale factor.**
- **The centre of enlargement is a fixed point in the plane about which all points are expanded or contracted. It is the only invariant point under a dilation.**