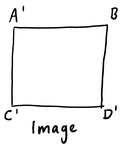
ENLARGEMENTS

09 May 2019 15:20

OBJECT
- original diagram



Image

An enlargement is a transformation that produces an image of the object
- bigger - enlargement
- smaller - reduction.

When doing this transformation you must use a scale factor notation scale factor (k)

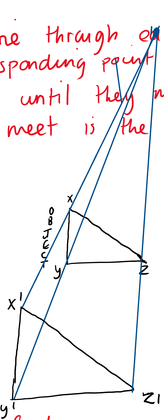
The scale factor is how many times bigger or smaller the image is than the object

1) going from an object to an enlarged image the scale factor will be greater than 1 $\therefore k > 1$

2) going from an object to a reduced image the scale factor will be less than 1 $\therefore k < 1$

To Draw an enlargement you need a centre of the englargement

1) Draw a dashed line through each point on the object and its corresponding point on the image
2) Extend these lines until they meet.
3) Where the lines meet is the centre of the enlargement.

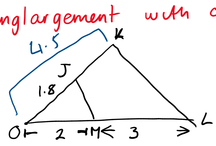


Finding the scale factor

Formula (k) $\dfrac{|\text{image length}|}{|\text{object length}|}$ ← absolute value - can't negative.

Using corresponding from the object and the image.

Eg1) $\triangle OMJ$ is the image of $\triangle OLK$ under an englargement with centre O.



Find the scale factor.

OBJECT $\triangle OLK$

$|OM| = 2$ image

$|OL| = 3 + 2 = 5$ object

$k = \dfrac{|\ 2\ 1\ |}{|\ 5\ 1\ |} = \dfrac{2}{5}$

If $|OJ|$ is 1.8 Find $|JK|$

$\dfrac{1.8}{OK} = \dfrac{2}{5}$ cross multiply

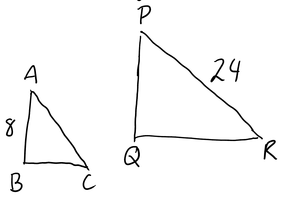
$9 = 2OK$

$4.5 = OK$

$JK = OK - OJ$

$JK = 4.5 - 1.8 = 2.7$

H/W) $\triangle PQR$ is the image of $\triangle ABC$ under an enlargement. The scale factor is 1.5



Find $|PQ|$

Find $|AC|$