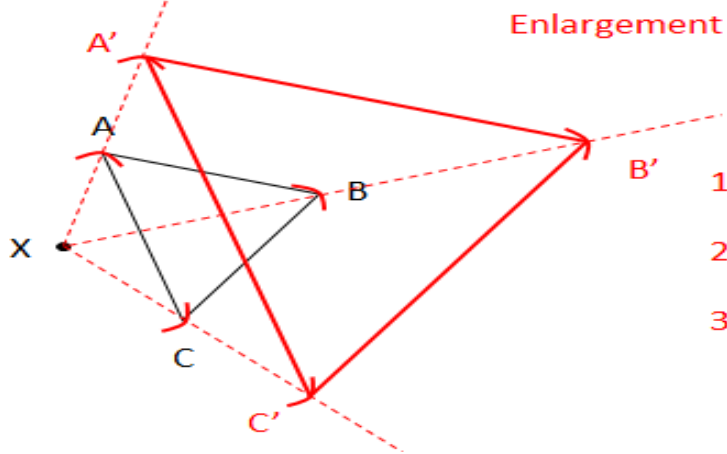Using the preimages below, the given center of dilation, and the given scale factor, dilate the preimages. Label the images appropriately.

Dilation Plane Method: (Video Notes)

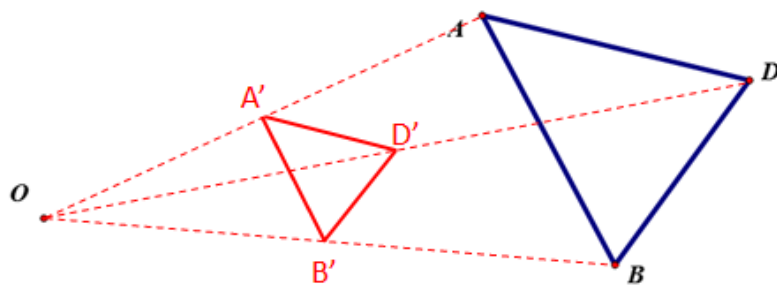n = 2 → double the size/twice as far away from X

Enlargement

Notation:

$D_{x,2}(\triangle ABC)$

1) Ray connects center and point.
2) Measure distance from center to point.
3) Scale distance to place image points.
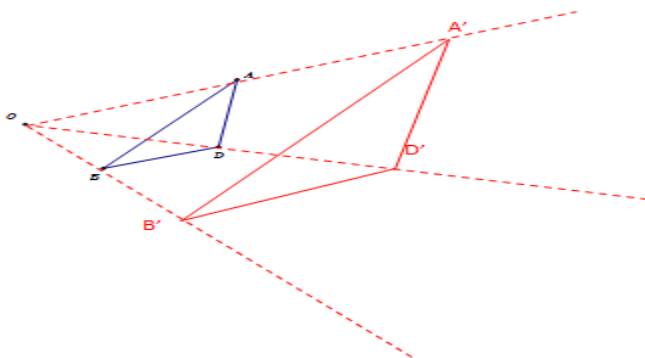

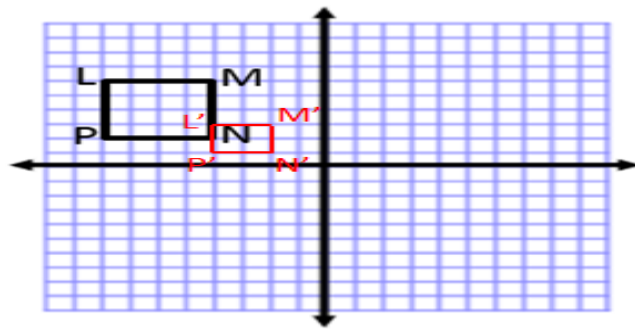1. $D_{O,\frac{1}{2}}(\triangle ABD)$　　　　　　　　　　ENGLARGEMENT　　　　(REDUCTION)

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2. $D_{O,2}(\triangle ABD)$　　　　　　　　　(ENGLARGEMENT)　　　　REDUCTION


Coordinate Dilations: $(x, y) \rightarrow (0.5x, 0.5y)$

$$L (-8,6) \rightarrow L' (-4,3)$$
$$M (-4,6) \rightarrow M' (-2,3)$$
$$N (-4,2) \rightarrow N' (-2,1)$$
$$P (-8,2) \rightarrow P' (-4,1)$$

Finding a Center of Dilation and Scale Factor:

*Work backwards
1) Connect each preimage vertex to its image with a line
2) The intersection of the lines is the center of dilation
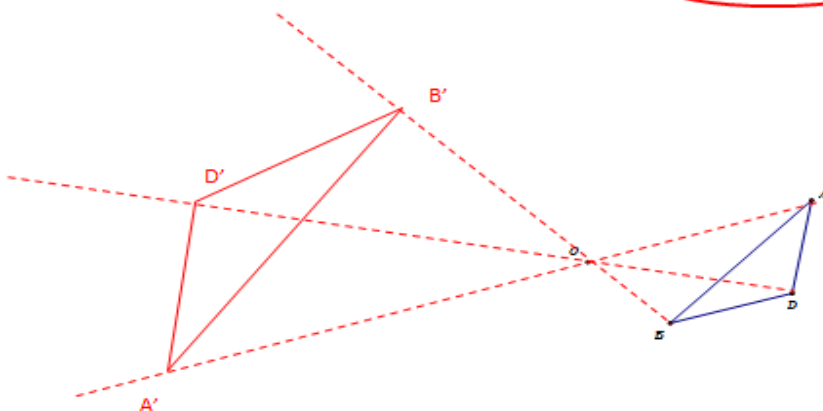3) Compare center$\rightarrow$ preimage distance with center$\rightarrow$ image distance to find the scale factor

Given the preimage (dashed) and image (solid) find the center of dilation and the scale factor (n)

Center of dilation
n = 2
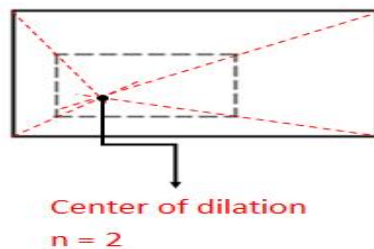
3. $D_{O, -2} (\triangle ABD)$

ENGLARGEMENT   REDUCTION

n = -2 doubles the size & rotates figure 180°