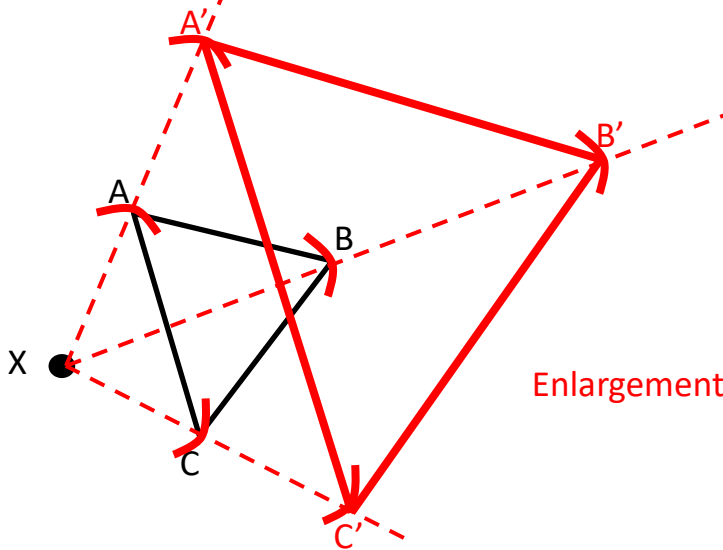Using the preimages below, the given center of dilation, and the given scale factor, dilate the preimages. Label the images appropriately.

Dilation Plane Method: (Video Notes)

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

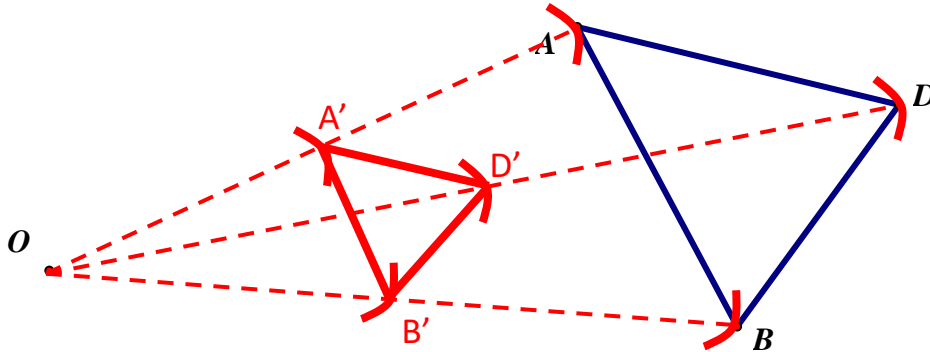Notation:

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

A'

B'

A

B

X

Enlargement

C

C'

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

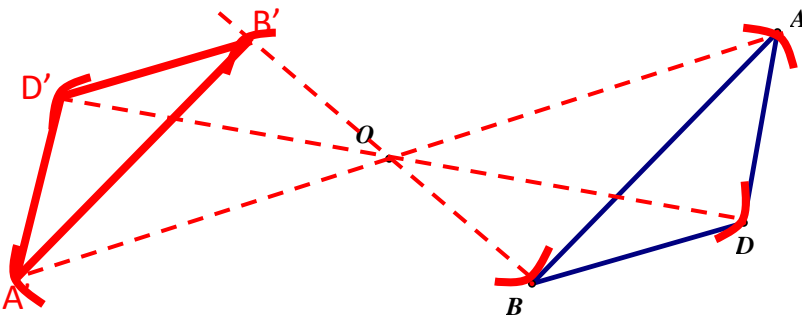1. $D_{O, \frac{1}{2}}(\triangle ABD)$ 　　　　　　　ENGLARGEMENT 　　　　REDUCTION
   2.

A

A'

D

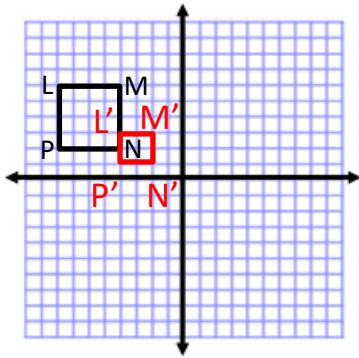D'

O

B'

B

3. $D_{O, -1}(\triangle ABD)$ 　　　　　　ENGLARGEMENT 　　　　REDUCTION

B'

A

Neither

D'

O

D

A

B

n = -1 keeps size the same but rotates figure 180°
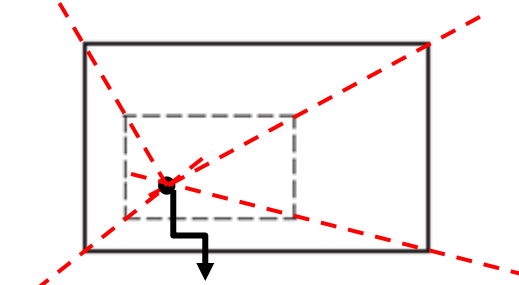
Coordinate Dilations: (x, y) → (0.5x, 0.5y)

L (-8,6) → L' (-4,3)
M (-4,6) → M' (-2,3)
N (-4,2) → N' (-2,1)
P (-8,2) → 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→ preimage distance with center→ 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