Notes Transformations: Dilations Name:_____

Dilation: Enlarging or shrinking of an object.

Scale Factor: What do we enlarge or shrink by.

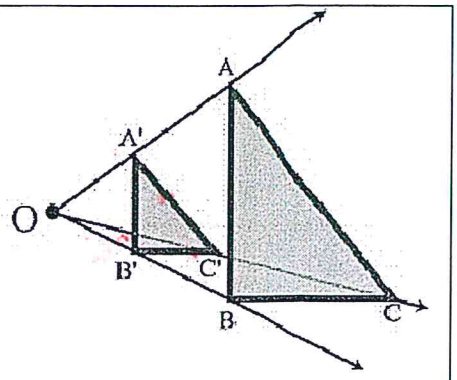
Image (new)

Scale Factor:_____

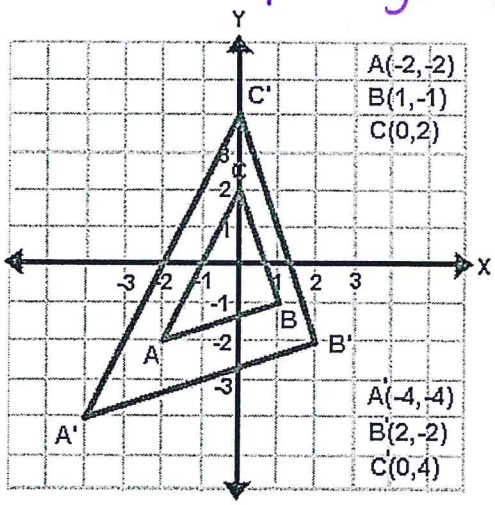
Pre-image (original)

S > 1 enlarge

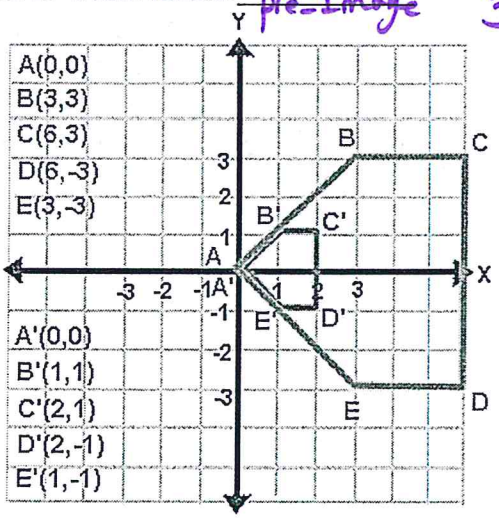
S < 1 Shrink



Ex 1: Scale factor? $\frac{\text{Image}}{\text{Pre-Image}} = \frac{-4}{-2} = 2$ Enlarged



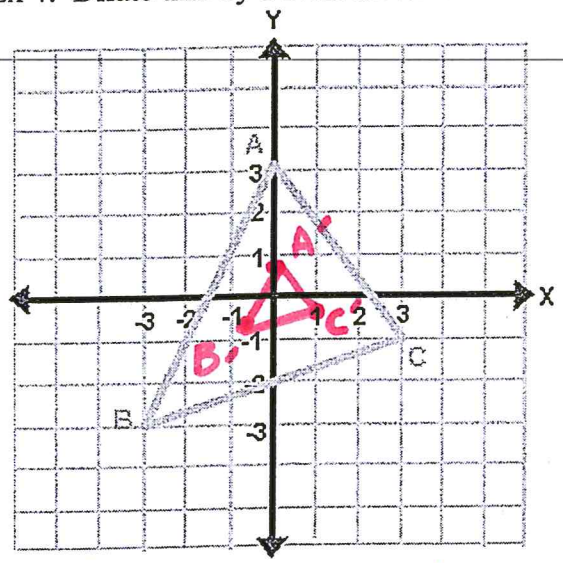
Ex 2: Scale factor? $\frac{\text{Image}}{\text{Pre-Image}} = \frac{1}{3} = 0.33$ Shrink.



Ex 3: Under a dilation, triangle $A(0,0)$, $B(0,4)$, $C(6,0)$ becomes triangle $A'(0,0)$, $B'(0,10)$, $C'(15,0)$. What is the scale factor for this dilation?

Scale Factor: $\frac{\text{Image}}{\text{pre-Image}} = \frac{15 \div 3}{6 \div 3} = \frac{5}{2} = 2.5$ Enlarge

Ex 4: Dilate this by a scale factor of 1/4 = 0.25

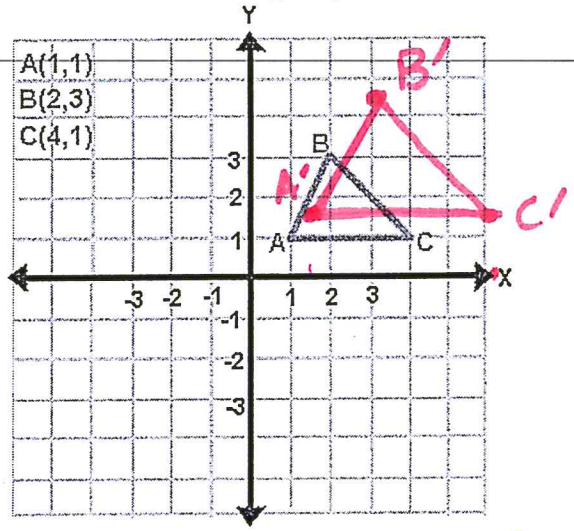


A(0, 3) → A'(0, 0.75)

B(-3, -3) → B'(-0.75, -0.75)

C(3, -1) → C'(0.75, -0.25)

Ex 5: Dilate this triangle by a scale factor of 1.5



A(1,1) → A'(1.5, 1.5)

B(2,3) → B'(3, 4.5)

C(4,1) → C'(6, 1.5)