10.1 Dilations

Same shape-angles are the same

Different size-lengths are different (not preserved)

Dilations can share coordinates from the preimage to the image if the center is one of the vertices.

Scale Factor less than one it shrinks the image

Pre-image- the original

Image-new

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Dilations with the center at the origin (0,0)

1. Multiply each coordinate by the scale factor

2. Plot the new points A'

3. Check to make sure the image is the same shape as the pre-image

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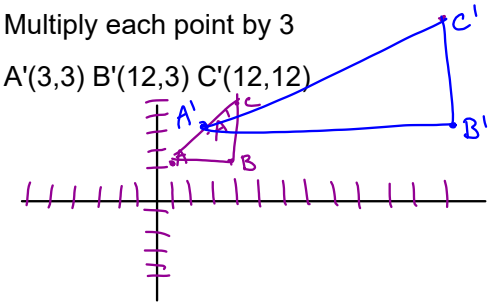
A(1,1) B(4,1) C(4,4) Center is (0,0) SF:3

Multiply each point by 3

A'(3,3) B'(12,3) C'(12,12)



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Dilations with center not at the origin

1. Mark the center with a star

2. Count the vertical distance and the horizontal distance from the center to the vertex.

3. Repeat the vertical and horizontal distance as many times as the scale factor.

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Example: Center (3,5) A(-3,1) Scale Factor 3
To get from the center to A

-down 4, left 6 (Because the SF is 3 repeat 3 times. Start at the center (3,5)

down 4, left 6 (Scale Factor 1)

down 4, left 6 (Scale Factor 2)

down 4, left 6 (Scale Factor 3)

To get A' (-15,-7)

Do this for all of the vertices A,B,C,D

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You cannot see the points on the homework. These are the vertices for problems 1-6.

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① A(0,0) B(2,3) C(4,0)

② A(0,0) B(0,4) C(4,4) D(4,0)

③ A(-2,-2) B(-4,4) C(2,6) D(2,2)

⑤ A(-3,1) B(-3,5) C(3,4) D(2,2)

⑥ A(-2,-2) B(-6,-2) C(-2,-5)

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