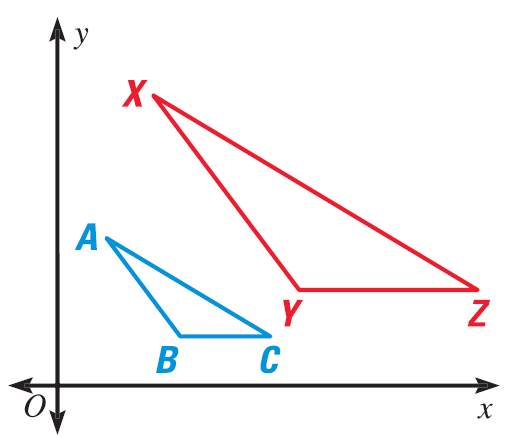
Geometry

6.7 Perform Similarity Transformations

# Dilation

similar

shrinks

stretches

* Transformation that \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_ a figure to create a \_\_\_\_\_\_\_\_\_\_\_\_ figure.

dilation

center

point

reduced

enlarged

* The figure is \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_ with respect to a \_\_\_\_\_\_\_\_\_ called the \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_

image

ratio

dilation

* The scale factor of a \_\_\_\_\_\_\_\_\_\_\_ is the \_\_\_\_\_\_\_\_\_ of a side of the \_\_\_\_\_\_\_\_\_\_\_ to the corresponding side of the \_\_\_\_\_\_\_\_\_\_\_

original

* Coordinate Notation for a Dilation with respect to the origin

factor

scale

ky

kx

* + (x, y) 🡪 (\_\_\_\_, \_\_\_\_) where k is the \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

reduction

* + If 0 < k < 1, \_\_\_\_\_\_\_\_\_\_

enlargement

* + If k > 1, \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the coordinates of L, M, and N so that ΔLMN is a dilation of ΔPQR with a scale factor of k. Write the coordinate notation for the dilation.

P(-2, -1), Q(-1, 0), R(0, -1); k = 4

(x, y) 🡪 (4x, 4y)

L(-8, -4), M(-4, 0), N(0, -4)

Suppose a figure containing the origin is dilated. Explain why the corresponding point in the image of the figure is also the origin.

Origin is (0, 0). k(0) = 0. so (k0, k0) = (0,0)

(x, y) 🡪 (kx, ky)

If x and y are 0, then kx and ky are 0.

Assignment: 412 #2-22 even, 30, 36, 38, 40-43 all = 18

Extra Credit: 415 #2, 4 = +2