

Lesson 12-7

Objective – To identify and construct dilations.
 $\triangle ABC$ is dilated using a scale factor, $k = 2$, and the origin is the center of dilation.

$A(2,1) \times 2 = A'(4,2)$
 $B(3,4) \times 2 = B'(6,8)$
 $C(5,3) \times 2 = C'(10,6)$

An enlargement is produced if the scale factor, $k > 1$
 or if $k < -1$.

A reduction is produced if the scale factor, $0 < k < 1$
 or if $-1 < k < 0$.

$\triangle XYZ$ is dilated using a scale factor, $k = -3$, and the origin is the center of dilation.

$X(0,1) \times -3 = X'(0,-3)$
 $Y(2,1) \times -3 = Y'(-6,-3)$
 $Z(2,2) \times -3 = Z'(-6,-6)$

enlargement
 180° rotation about origin

Indicate whether the given scale factor will produce an enlargement or a reduction.

1) $k = 1.4$ enlargement	4) $k = -200\%$ enlargement
2) $k = 85\%$ reduction	5) $k = -0.3$ reduction
3) $k = 0.25$ reduction	6) $k = 2.5\%$ reduction