TOPIC 20-4: DILATIONS AND SIMILARITY

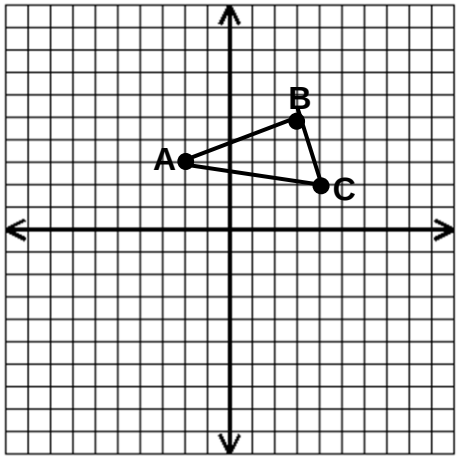
Recall… A **DILATION** produces a figure that is similar to the original figure given (reduction/enlargement).

The **SCALE FACTOR** tells you how much larger or smaller the dilated figure is compared to the original.

In a reduction, the scale factor is _____.

In an enlargement, the scale factor is _____.

EXAMPLE 1: Use "slope" to produce a dilation of ΔABC with a scale factor of 2 using the origin as your center of dilation.



A' (_____, _____)

B' (_____, _____)

C' (_____, _____)

EXAMPLE 2: Use "slope" to produce a dilation of ΔABC in Example 1 with a scale factor of 2 using B as your center of dilation.

A' (_____, _____)

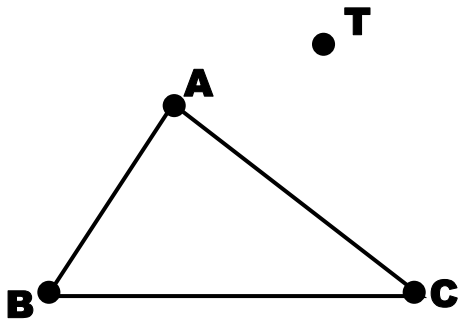
B' (_____, _____)

C' (_____, _____)

EXAMPLE 3: ∆ABC has coordinates at A(0,3), B(3,6), and C(6,0). Give the new coordinates of ∆ABC after it has been dilated with a scale factor of 2/3. Use the origin as your center of dilation.

There is a second method for dilating a figure when the slope cannot be determined:

EXAMPLE 4: Dilate the ∆ABC below. Use a scale factor of 2. T is the point of dilation.



EXAMPLE 5: ΔRST has vertices R(1, 2), S(1, 4) and T(-3, 4). Rotate ΔRST 90° counterclockwise about the origin and then reflect it across the y-axis.