

Dilations

Today I Can

1. Perform dilations of figures.

Dilations

A transformation to a figure that will produce a similar one that is either larger (an *enlargement*) or smaller (a *reduction*) than the original.

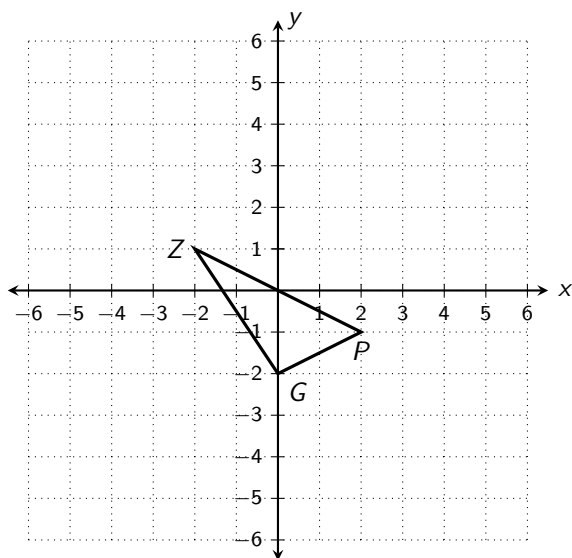
We use the scale to determine what we multiply the sides by.

- If the scale is larger than 1, the dilation is an enlargement.
- If the scale is between 0 and 1, the dilation is a reduction.

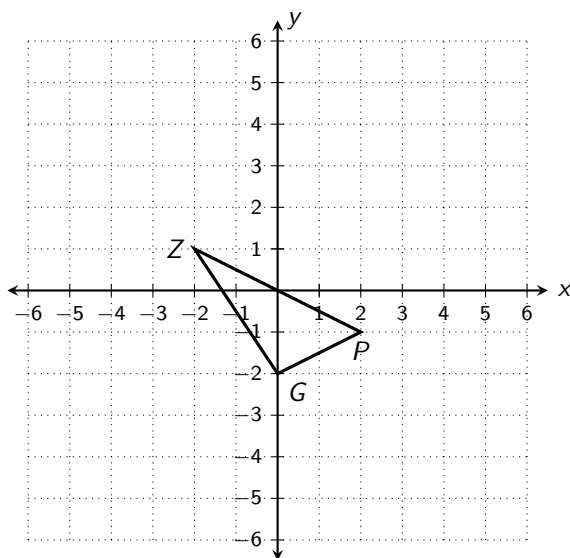
When dilating figures in the coordinate plane, multiply the coordinates of the vertices by the scale.

Example 1. Find the coordinates of $\triangle G'P'Z'$ after each dilation. Then graph the result.

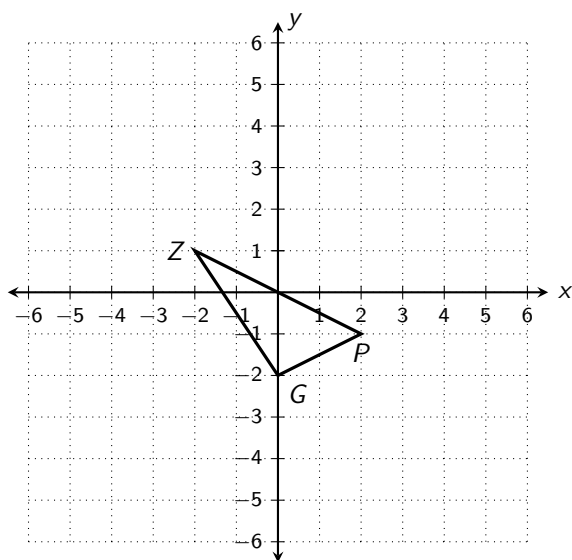
(a) Scale factor of 2



(b) Scale factor of $\frac{1}{2}$



(c) Scale factor of 1.5



Example 2. Calculate the slope of \overline{PG} from Example 1c. Then calculate the slope of $\overline{P'G'}$.

What do you notice?