Renaming a Point

Points are notated with capital letters.

As a result of transforming a point – either by reflecting, rotating, translating or dilating that point – the image of the point will be renamed.

Point A becomes point A' (called "A prime"). If the transformed point then goes through a second transformation, A' would become A'' ("A prime prime").

When you look at a graph that has points A, B and C on it, you know these are three distinct points. But if you see a graph that has points B, B' and B'', you can conclude that the three points are related to each other, that the second two points occurred as a series of transformations beginning at the first.

A second, less common, convention in naming points is that the vertices of a polygon are named using new letters. For example, after reflecting triangle ABC across the *x*-axis, its image becomes triangle DEF. Since A is the first point listed, its reflection becomes point D, the first letter listed in the reflected triangle. The second letter, B, becomes the second letter E, and the third letter, C, becomes the third letter F. The same is true for polygons with any number of sides and vertices (if pentagon ABCDE becomes pentagon VWXYZ, then the fourth letter, D, would correspond to the fourth letter, Y).

Since the order of the points corresponds between the original polygon and its image, the sides of the polygons also correspond. For example:

ABC → DEF, so line segment $\overline{BC}$ becomes line segment $\overline{EF}$.