Pre-Algebra
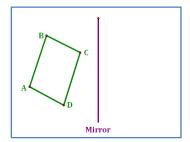## Introduction to Transformation (cont'd)

Transformation of a Point

A point is the easiest object to transform. Simply reflect, rotate or translate it following the rules for the transformation selected. By transforming key points first, any transformation becomes much easier.
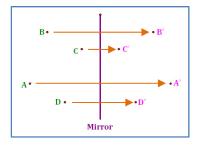
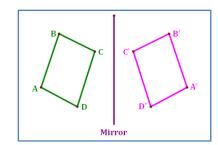## Transformation of a Geometric Figure

To transform any geometric figure, it is only necessary to transform the items that define the figure, and then re-form it. For example:

- To transform a **line segment**, transform its two endpoints, and then connect the resulting images with a line segment.

- To transform a **ray**, transform the initial point and any other point on the ray, and then construct a ray using the resulting images.

- To transform a **line**, transform any two points on the line, and then fit a line through the resulting images.

- To transform a **polygon**, transform each of its vertices, and then connect the resulting images with line segments.

- To transform a **circle**, transform its center and, if necessary, its radius. From the resulting images, construct the image circle.

- To transform **other conic sections (parabolas, ellipses and hyperbolas)**, transform the foci, vertices and/or directrix. From the resulting images, construct the image conic section.

Example: Reflect Quadrilateral ABCD