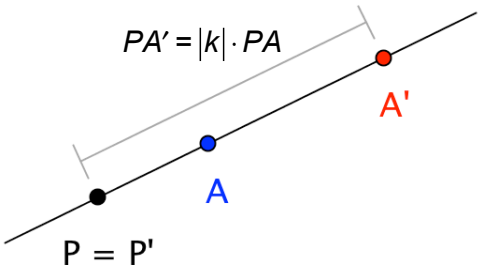
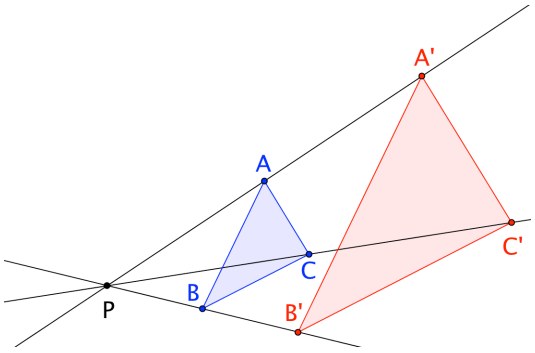
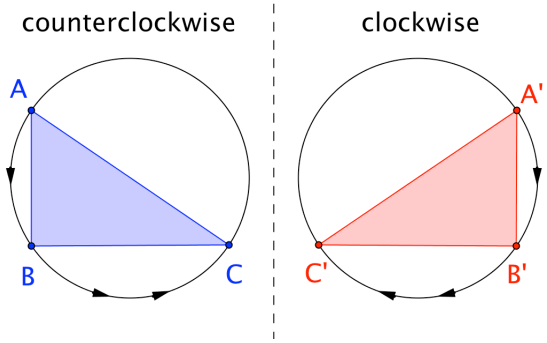
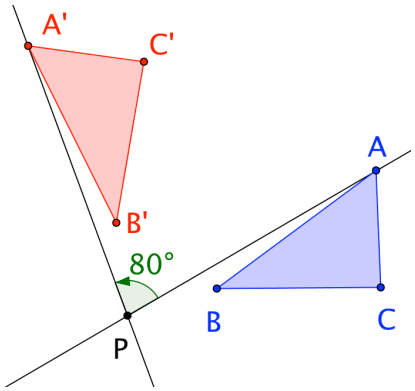
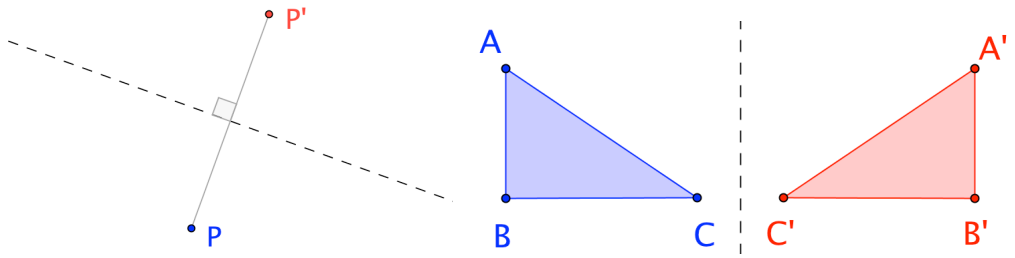
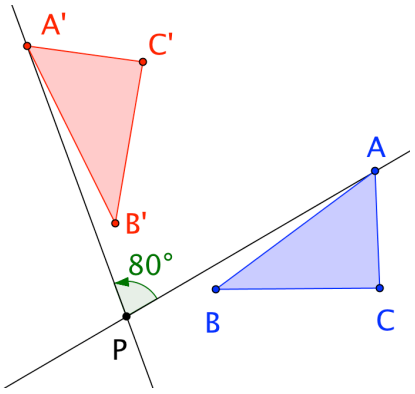
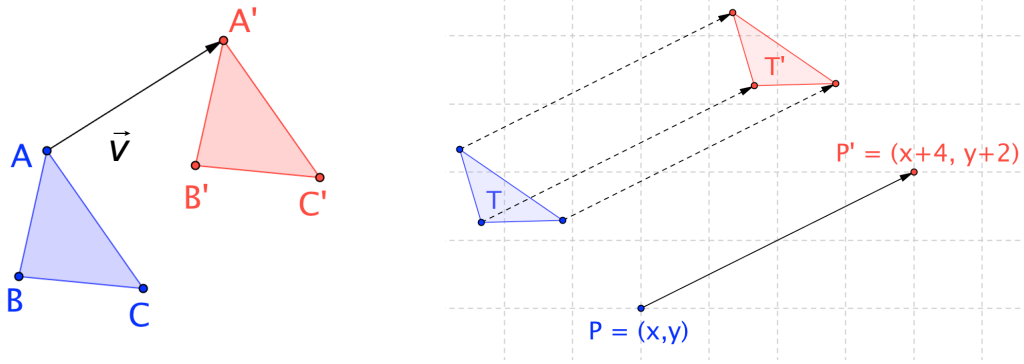
WORD BANK	
dilation	A **dilation** with center P and scale factor $k \neq 0$ is a mapping such that if point A is different from P, then the image A' lies on $\overleftrightarrow{PA}$ and $PA' = \lvert k \rvert \cdot PA$.   Note: If the scale factor $k = 1$, then the dilation will be an isometry. If the scale factor $k < 0$, then P will lie between A and A'. Also, if A is the point P, then $A' = A$.
isometry	An **isometry** is a transformation of the plane that preserves length.
image	An **image** is the resulting point or set of points under a mapping (function).
orientation	**Orientation** refers to the arrangement of points relative to one another in a figure. If points A, B and C lie on a circle, then we say ΔABC has a clockwise orientation if the path on the circle from A through B to C traverses the circle in the clockwise direction. Similarly, ΔABC has a counterclockwise orientation if the path on the circle from A through B to C traverses the circle in the counterclockwise direction.  A reflection changes orientation.  A rotation does not change orientation.

WORD BANK (continued)	
reflection	A **reflection** maps every point P to a point P' such that: (1) if P is not on the axis of reflection then the axis is the perpendicular bisector of $\overline{PP'}$ (the line segment joining P and P'), and (2) if P is on the axis of reflection, then $P = P'$. 
rotation	A **rotation** about a point P through angle α is a transformation such that: (1) if point A is different from P, then $PA = PA'$ and the measure of $\angle APA' = \alpha$; and (2) if point A is the same as P, then $A' = A$. 
translation	A **translation** of the plane shifts all points on the plane in the same direction and in the same distance. That is, given a vector (directed segment) $\vec{v}$, the image P' of a point P is the point for which $\overline{PP'} \parallel \vec{v}$ and $PP' = \lvert\vec{v}\rvert$. 
transformation	A **transformation** of the plane is a one-to-one mapping (function) of the plane onto itself.