

Vocabulary Toolkit

	Term	Definition / Additional Information
6.1 T	center of dilation	A fixed point in the plane about which all points of an image are expanded or contracted in a dilation.
6.2 T	similar	One figure can be obtained from the other by a sequence of rotations, reflections, translations, and dilations. Two polygons are similar if all corresponding angles are congruent and all corresponding pairs of sides are proportional.
6.2 T	proportional	having, or related by, a constant ratio
6.2 T	dilation	A dilation is the transformation of the plane such that if O is the center of the dilation and a non-zero number, k, is the scale factor, then P' is the image of point P if O, P, and P' are collinear and $\frac{OP'}{OP} = k$.
6.2 T	Mid-segment Theorem	The segment joining the midpoint of two sides of a triangle is parallel to the third side and half the length.
6.3 T	AA Similarity (for triangles)	Two triangles are similar if they have two pair of corresponding congruent angles.
6.4 T	Side-splitter theorem	If a line is parallel to one side of a triangle and intersects other two sides of the triangle, then it will divide other two sides into segments of proportional lengths. (<i>This is a special case for use only when two similar triangles overlap, such that one vertex is the point of dilation. The corresponding sides of the triangles that coincide are divided proportionally.</i>)
pre 6.5	SAS Similarity (for triangles)	Two triangles are similar if they have one pair of corresponding congruent angles and the two sides that form those angles are proportional to the corresponding sides in the other triangle.
pre 6.5	SSS Similarity (for triangles)	Triangles are similar if all three sides in one triangle are in the same proportion to the corresponding sides in the other.
6.8 T	sine (sin)	For the <i>specified angle</i> in a <i>right triangle</i> , it is the ratio of the length of the side that is opposite that angle to the length of the longest side of the triangle (i.e., the hypotenuse).

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6.8 T	cosine (<i>cos</i>)	For the <i>specified angle</i> in a <i>right triangle</i> , it is the ratio of the length of the side that is adjacent to that angle to the length of the longest side of the triangle (i.e., the hypotenuse).
6.8 T	tangent (<i>tan</i>)	For the <i>specified angle</i> in a <i>right triangle</i> , it is the ratio of the length of the side that is opposite that angle to the length of the side that is adjacent to that angle.
6.10 T	angle of elevation	The angle formed by the line of sight and the horizontal plane for an object <i>above</i> the horizontal.
6.10 T	angle of depression	The angle between the horizontal and the line of sight to an object <i>beneath</i> the horizontal.