Vocabulary

Similar Polygons	Two polygons are similar polygons if and only if their corresponding angles are congruent and their corresponding side lengths are proportional
Similarity Ratio	The ratio of the lengths of the corresponding sides of two similar polygons
Similarity Transformation	A dilation or a composite of one or more dilations and one or more congruence transformations
Dilation	(k*x*, k*y*)
Indirect Measurement	Any method of measuring that uses formulas, similar figures, and/or proportions to measure an object
Scale Drawing	Represents an object as smaller or larger than its actual size
Scale	The ratio of any length in the drawing to the corresponding actual length
Dilation	A transformation that changes the size of a figure but not its shape
Scale Factor	Describes how much the figure is enlarge or reduced

Similar Shapes

All circles and squares are similar because they all have the same shape.

Properties of Similarity

Reflexive	Triangle ABC is similar to triangle ABC
Symmetric	If triangles ABC is similar to DEF, then triangle DEF is similar to triangle ABC
Transitive	If triangle ABC is similar to DEF and triangle DEF is similar to XYZ, then triangle ABC is similar to triangle XYZ

Theorems & Postulates

Angle--Angle (AA) Similarity Postulate	If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar
Side-Side-Side (SSS) Similarity Theorem	If the three sides of one triangle are proportional to the three corresponding sides of another triangle, then the triangles are similar
Aide-Angle-Side (SAS) Similarity	If two sides of one triangle are proportional to two sides of another triangle and their included angles are congruent, then the triangles are similar
Triangle Proportionality Theorem	If a line parallel to a side of a triangle intersects the other two sides, then it divides those sides proportionally

Theorems & Postulates (cont)

Converse of the Triangle Proportionality Theorem	If a line divides two sides of a triangle proportionally, then it is parallel to the third side
Two-Transversal Proportionality	If three or more parallel lines intersect two transversals, then they divide the transversals proportionally
Triangle Angle Bisector Theorem	An angle bisector of a triangle divides the opposite sides into two segments whose lengths are proportional to the lengths of the other two sides
Proportional Perimeters and Areas Theorem	If the similarity ratio of two similar figures is a/b, then the ratio of their perimeters is a/b, and the ratio of their areas is a^2/b^2

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