FM Geometry Vocabulary/Properties/Postulates/Theorems for Chapter 6

The Exterior Angle of a Triangle Inequality Theorem: The measure of an exterior angle of a triangle is greater than the measures of either remote interior angle.

Thrm: If one side of a triangle is longer than a second side, then the angle opposite the first side is larger than the angle opposite the second side. [Longer side → Larger angle]

Thrm: If one angle of a triangle is larger than a second angle, then the side opposite the first angle is longer than the side opposite the second angle. [Larger angle → Longer side]

The Triangle Inequality: The sum of the lengths of any two sides of a triangle is greater than the length of the third side.

Given two lengths of a triangle (a and b), the possible lengths for the third side(x) are given by the following compound inequality.

$$|a-b| < x < a+b$$

FM Geometry Vocabulary/Properties/Postulates/Theorems for Chapter 7

Ratio Proportion Means Extremes

Properties of Proportions:

If $\frac{a}{b}=\frac{c}{d}$, then the following are also true.

a. $ad=bc$ b. $\frac{a}{c}=\frac{b}{d}$ c. $\frac{b}{a}=\frac{d}{c}$ d. $\frac{a+b}{b}=\frac{c+d}{d}$

If $\frac{a}{b}=\frac{c}{d}=\frac{e}{f}=\ldots$, then $\frac{a+c+e+\ldots}{b+d+f+\ldots}=\frac{a}{b}$.

Similar Polygons Scale Factor

AA Similarity Postulate SAS Similarity Theorem SSS Similarity Theorem

Triangle Proportionality Thrm: If a line parallel to one side of a triangle intersects the other two sides, then it divides those sides proportionally.

Proportional Transversal Thrm: If three parallel lines intersect two transversals, then they divide the transversals proportionally.

Triangle Angle-Bisector Thrm: If a ray bisects an angle of a triangle, then it divides the opposite side into segments proportional to the other two sides.