Some notes from class

2018-02-07

Theorems we know

Theorem

Suppose a line ℓ intersects $\triangle PQR$ at a point S such that $P - S - Q$. Then ℓ intersects $\overline{PR}$ or $\overline{RQ}$.

Theorem (Crossbar Theorem)

If X is a point in the interior of $\triangle ABC$, then $\overrightarrow{AX}$ intersects $\overline{BC}$ in a point Y such that $B - Y - C$.

Theorem (Isosceles Triangle Theorem)

If two sides of a triangle are congruent, then the angles opposite those sides are congruent.

Theorem (Perpendicular Bisector Theorem)

A point is on the perpendicular bisector of a line segment if and only if it is equidistant from the endpoints of the line segment.

More theorems

Theorem (Exterior Angle Theorem)

The measure of an exterior angle of a triangle is greater than or equal to the measure of each non-adjacent interior angle of the triangle.

Theorem (ASA)

Blah, blah, blah...

Theorem (AAA)

Blah, blah, blah...

AAS

Theorem (AAS)

If the angles of two triangles are in one-to-one correspondence in such a way that two angles and a non-included side of one triangle are congruent to two angles and a non-included side of the other triangle, then the two triangles are congruent.

Bigger side implies bigger opposite angle

Theorem

Suppose A, B, *and* C *are non-collinear (meaning that* $\triangle ABC$ *is defined). If* $BA > BC$, *then* $m(\angle C) > m(\angle A)$.

Bigger opposite angle implies bigger side

Theorem

Suppose A, B, and C are non-collinear (meaning that $\triangle ABC$ is defined). If $m(\angle C) > m(\angle A)$, then $BA > BC$.

Triangle Inequality

Theorem (Triangle Inequality)

Let $A, B,$ and C be non-collinear points. Then $AB + BC > AC$.