**Lesson Plan Outline Geometry in Construction**

**Title:**

Coordinate Proofs

**Objective(s):**

Students will prove two triangles are congruent using distance formula, slopes, and previous theorems

**Learning Standard(s):**

[CCSS.MATH.CONTENT.HSG.CO.B.7](http://www.corestandards.org/Math/Content/HSG/CO/B/7/)

Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

**Activities:**

Triangle Proofs Formative Assessment

Students will review the distance formula.  Investigate how to prove triangles congruent when the only information is the coordinates. Discuss looking for SSS, but less work if you can find vertical angles, right angles, parallel lines, linking parallel lines and right angles from slope.

**Materials:**

Triangle Proofs Formative Assessment

Coordinate Proofs of Triangles