Problem Set 4 **Advanced Geometry** **Due 3/26/21**

Each problem is worth 2 points. Clear and complete justification is required for full credit. You are welcome to discuss these problems with anyone and everyone, but must write up your own final submission without reference to any sources other than the textbook and instructor. Submission on Moodle.

1. State and prove the Converse to the Corresponding Angles Theorem.
2. Show that a Euclidean parallelogram's diagonals divide it into congruent triangles.
3. Show that a Euclidean parallelogram's opposite sides are congruent.
4. Show that a Euclidean parallelogram's opposite angles are congruent.
5. Show that a Euclidean parallelogram's diagonals bisect each other.