Due at start of class, Tuesday, 2/4

Problems (to turn in).

1. Suppose a knot lies in a plane and bounds a convex region in the plane. (Convex means that any segment with endpoints in the region is entirely contained in the region.) Prove that the knot is equivalent to a knot with three vertices.

2. Generalize the argument given in class to show the following: Given a knot $K$, there is a positive constant $\epsilon_K$ such that if every vertex of $K$ is moved a distance less than $\epsilon_K$, then the resulting knot is equivalent to $K$.

3. Show that every knot with exactly four vertices is unknotted. (Unknotted means equivalent to a knot with 3 vertices)