1. 2-axis symmetry can be exploited across the horizontal and vertical axis of the part. This is why we can perform the analysis by only modeling a quarter of the surface.
2. Quadrilateral elements are preferred because they conform well to the rectangular coordinate plane and provide more information than triangular elements
3. The yield strength for A36 steel is 30,000psi and the maximum stress is 12,900psi. The steel should survive the applied load within the elastic region without permanent deformation.
4. The maximum stress of 12,900psi will occur on the edge of the hole where the cross section area resisting the load is the smallest.
5. The maximum end deflection occurs at the small cross section area near the hole and the maximum deflection is 4.259\*10^-3 in/in