



Spring 2015
MDP 121: Manufacturing Technology 1.

Assignment No. 1

- 1- What are the differences between bulk deformation processes and sheet metal processes?
- 2- What are the differences between primary and secondary manufacturing processes?
- 3- What are types of manufacturing work flow? Describe each type of them?
- 4- A metal has a flow curve with parameters: $K = 850 \text{ MPa}$ and strain hardening exponent $n = 0.30$. A tensile specimen of the metal with gage length 100 mm is stretched to a length 157 mm. Determine the flow stress at the new length and the average flow stress that the metal has been subjected to during the deformation.
- 5- For a certain metal. $K 700 \text{ MPa}$ and $n 0.27$. Determine the average flow stress that the metal experiences if it's subjected to a stress that is equal to its strength coefficient K .
- 6- The gage length of a tensile test specimen 150 mm. It is subjected to a tensile test in which the grips holding the end of the test specimen are moved with a relative velocity 0.1 m/s. Construct a plot of the strain rate as a function of length as the specimen is pulled to a length 200 mm.

Activity 1- each student has to prepare a report on types of presses.
(Hydraulic and mechanical types), Due date **22-5-2015**