

CME 260 – Mechanics of Materials  
Exam #2 (02/09/2022)

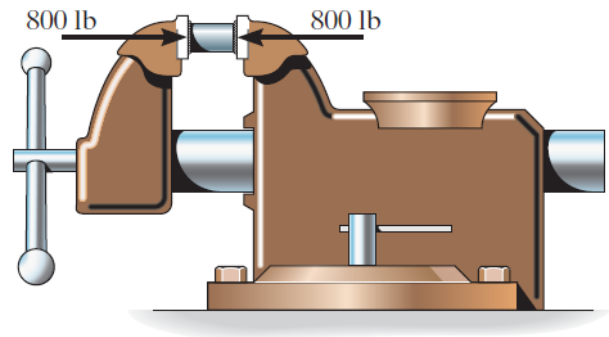
Tech ID or Star ID: \_\_\_\_\_

Do one of the two problems shown below (the second problem is on the back).

Show your work (you will not receive any credit if all you have is a final answer, right or wrong).

1. A section of solid cylindrical rod (originally 1.5 inches long with a diameter of 0.5 inches) is made of 2014-T6 Aluminum. It is placed in a vice and a load of 800 lb is applied as shown. With the load applied, determine:

- (a) the change in the length of the rod
- (b) the new diameter of the rod



2. A material, originally square, is deformed into the dashed position. Determine:
- (a) the average shear strain at corner A relative to the x, y axes.
  - (b) the average normal strain that occurs along the diagonal BD.

