Lab Demonstration – Friday, April 24, 2015

Names:__________________________________________________

1) Sketch the shapes of the shear and moment diagrams below the load diagram.

2) Given that $F_v = 480 \text{ psi} \pm 50 \text{ psi}$ and $F_b = 9600 \pm 800 \text{ psi}$, calculate and show maximum values of shear and moment on the diagrams.

3) Predict the maximum point load $(P)$ that the 2x4 will hold just before it breaks,

4) Draw on the sketch where you think failure will occur.

(Hint: look carefully at the 2x4 to see where the defects are)

EXTRA CREDIT:

5) Given that $E = 1,100,000 \text{ psi} \pm 100,000 \text{ psi}$, predict how much it will deflect at mid-span at maximum load