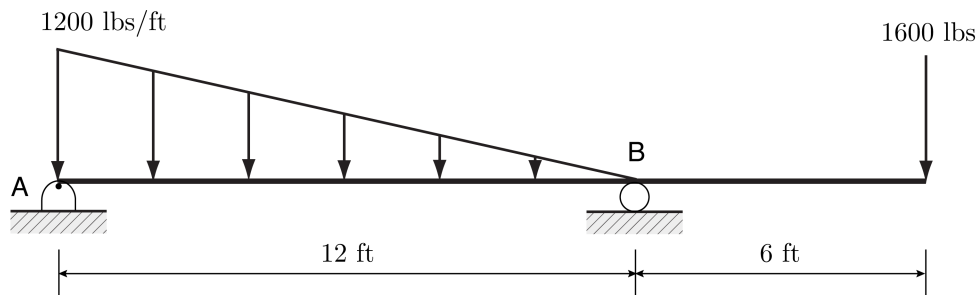


## CE 325 Spring 2026 HW#2

Due Thursday, January 29, at the beginning of class

1. For the determinate beam given below:

- a. (5 pts) Draw shear (V) and bending moment (M) diagrams and label with values at each transition point (beginning/end segments, maxima/minima, points of inflection). Show your sign conventions for the V and M diagrams.



2. Given the cross-section of a beam below:

- a. (5 pts) Find the location of the Neutral Axis (N.A.) and moment of inertia about the N.A.

Given the max/min shear force ( $V_{\max} = 4000$  lbs,  $V_{\min} = -3200$  lbs) and bending moments ( $M_{\max} = 7467$  lbs·ft,  $M_{\min} = -9600$  lbs·ft), calculate the:

- b. (5 pts) Maximum tensile and compressive bending stresses ( $\sigma$ )  
c. (5 pts) Maximum shear stress ( $\tau$ )

