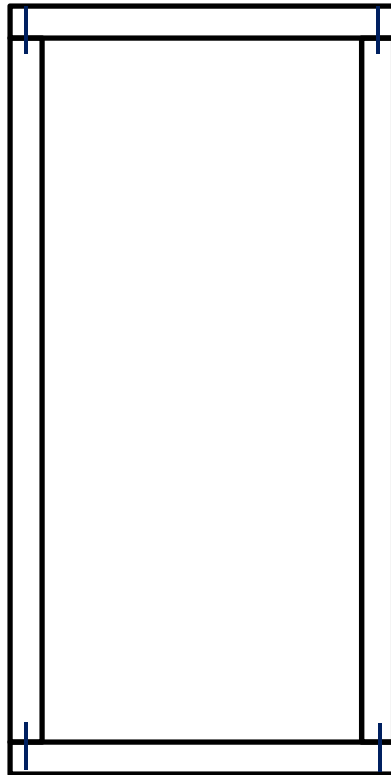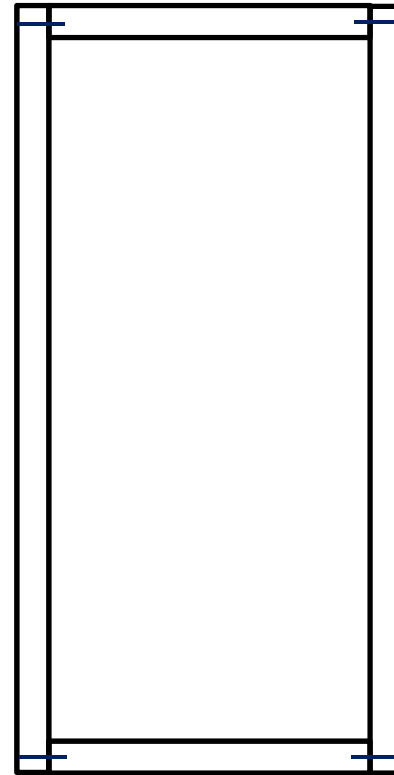Two wood box beams have the same outside dimensions (200mm x 360mm) and the same thickness (20mm) throughout, as shown below. Both beams are formed by nailing, with each nail having an allowable shear load of 250N. The beams are designed for a shear force V=3.2kN. (a) What is the maximum longitudinal spacing for the nails in Beam A? (b) What is the maximum longitudinal spacing for the nails in Beam B? (c) Which beam is more efficient in resisting the shear force?



Beam A                                          Beam B