ENDS 231. Study Guide for Quiz 8

This guide is not providing “answers” for the conceptual questions. It is a list of topical concepts and their application you should be familiar with. It is an *aid* to help prepare for the quiz.

Covers material of Lectures 18, 20 & 21

- Bending & shear stress (beams)
- Relation of strain to stress & Modulus of Elasticity
- Neutral axis, section modulus, $Q$, extreme fiber
- Stiffness (relative to $EI/L$ through $\Delta$)
- Maximum bending stress (& location along length and in cross section)
- Maximum shear stress (& location along length and in cross section)
- Maximum shear stress by beam shape (proper equations)
- Shear flow and shear center
- Connected area
- Nail capacity and pitch for resisting longitudinal shear
- Lateral buckling (and bracing)
- Braced vs. unbraced length
- Stress types in beams
- Self-weight
- Deflections & superpositioning (+ units)
- Use of Beam Diagrams and Formulas
- Serviceability and limits
- Nominal dimensions of timber