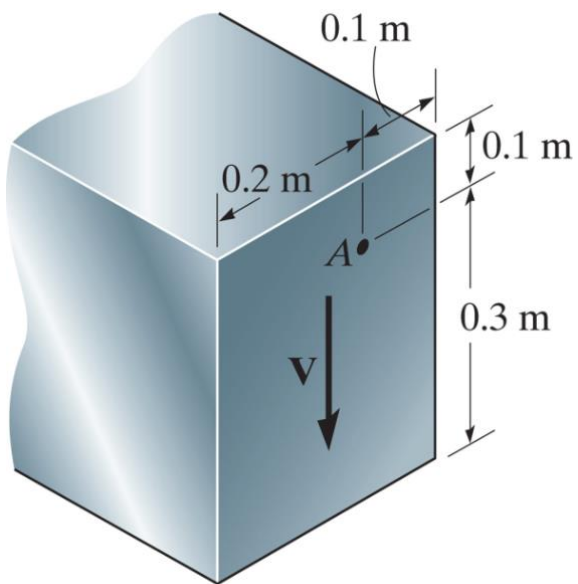
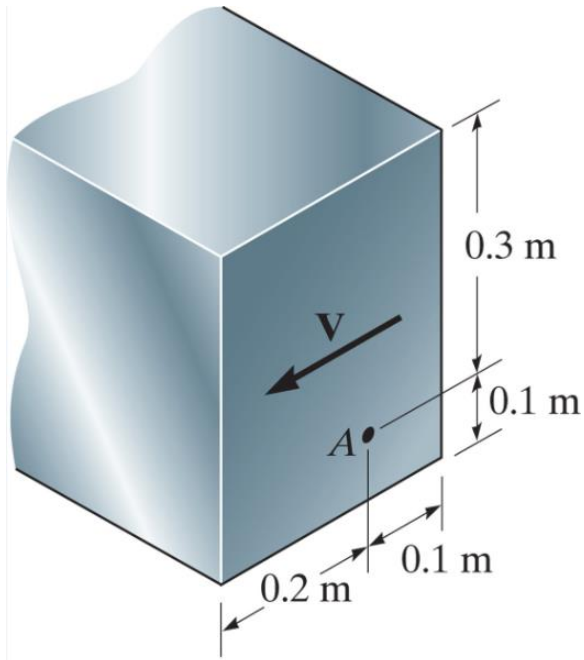


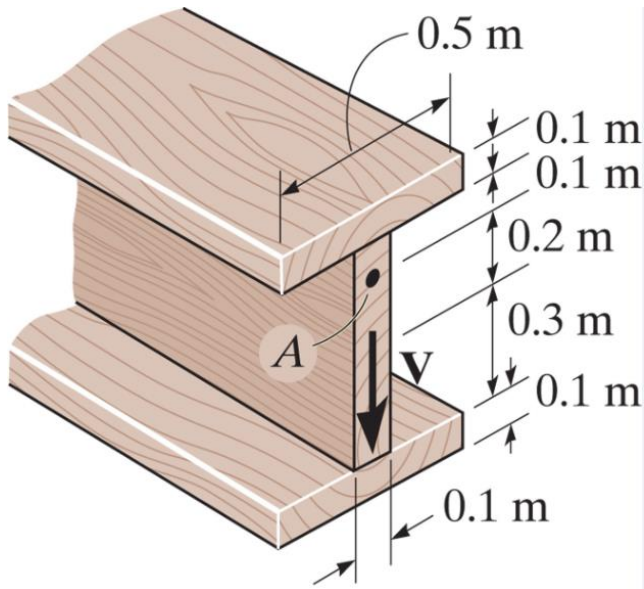
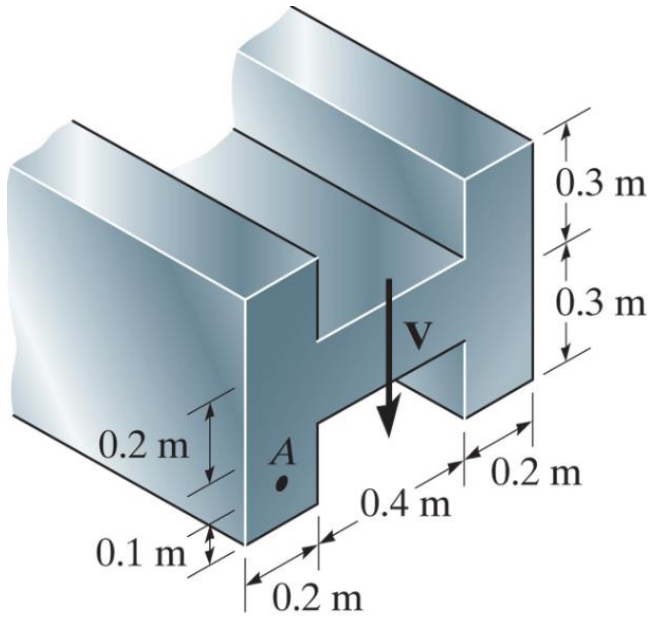
Chapter 7 Lecture Problems

Solving for Q and t

Calculate the value of Q and t that are used in the shear formula for finding the shear stress at point A.



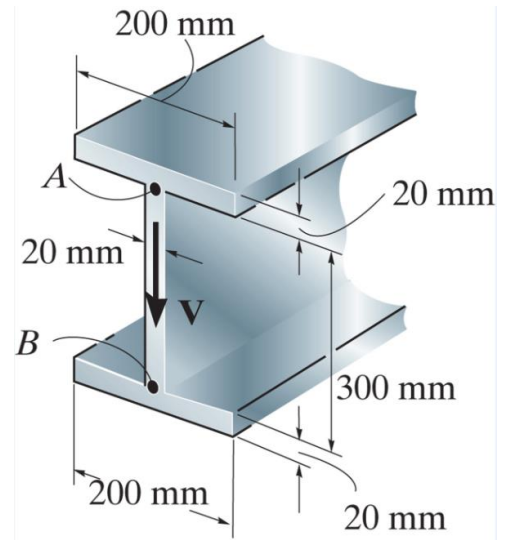
Chapter 7 Lecture Problems



Chapter 7 Lecture Problems

Problem 7-1

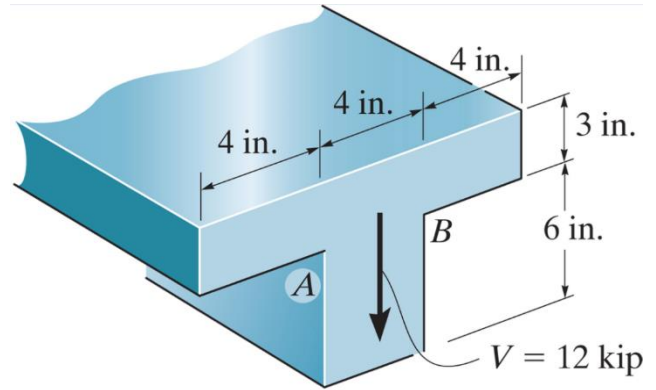
If the wide-flange beam is subjected to a shear of $V=20$ kN, determine the shear stress on the web at A. Indicate the shear-stress components on a volume element located at this point.



Chapter 7 Lecture Problems

Problem 7-4

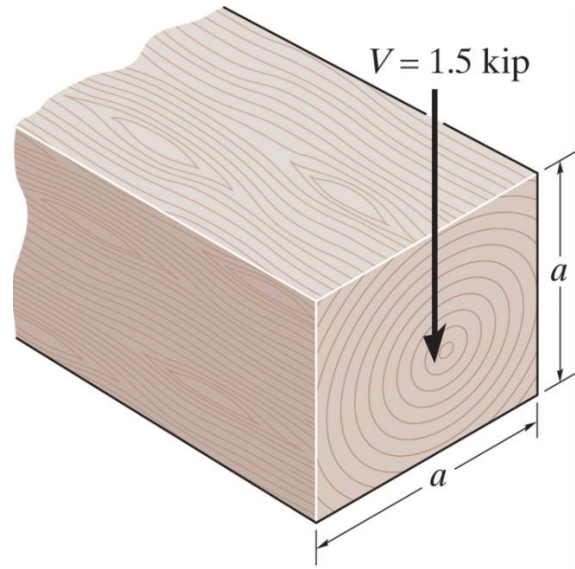
If the T-beam is subjected to a vertical shear of $V = 12$ kip, determine the maximum shear stress in the beam. Also, compute the shear-stress jump at the flange-web junction AB. Sketch the variation of the shear-stress intensity over the entire cross section.



Chapter 7 Lecture Problems

Problem 7-26

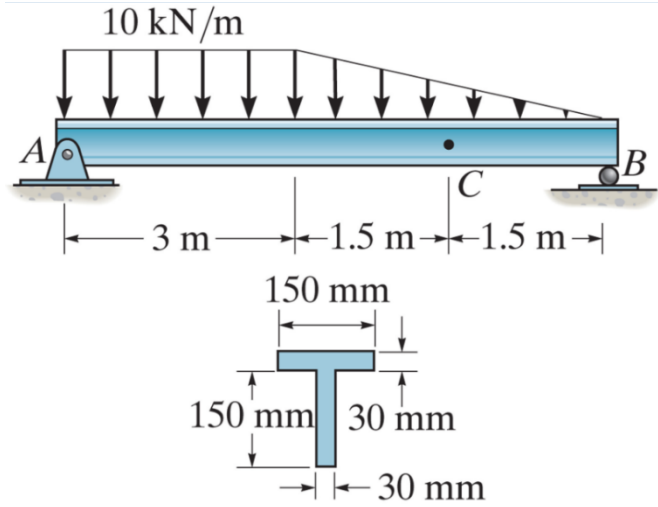
The beam has a square cross-section and is made of wood having an allowable shear stress of 1.4 ksi. If it is subjected to a shear force of 1.5 kip, determine the smallest dimension a of its sides.



Chapter 7 Lecture Problems

Problem 7-24

Determine the maximum shear stress in the T-beam at the critical section where the internal shear force is maximum.



Chapter 7 Lecture Problems

Example 4

The member shown has a rectangular cross section. Determine the state of stress that the loading produces at C and D.

