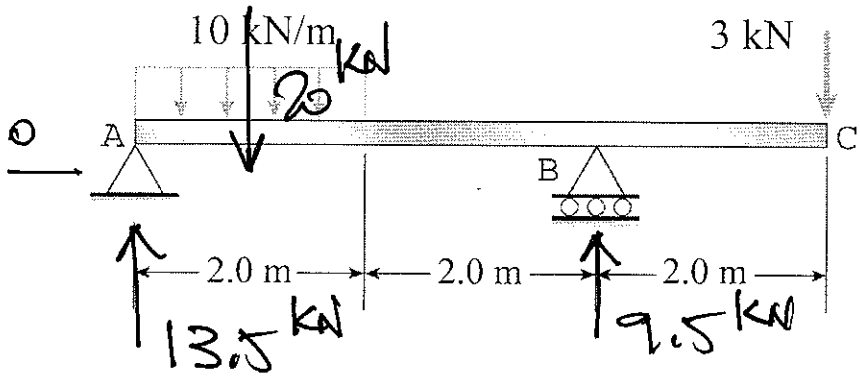
CIVL 230 **Quiz No. 1 - Sept. 12, 2012** Name: Solution

St. No. _____

(a) Calculate all support reactions for the beam shown below.
(b) Calculate all sectional forces (stress resultants) at mid-span between supports A and B (2.0 m from A).



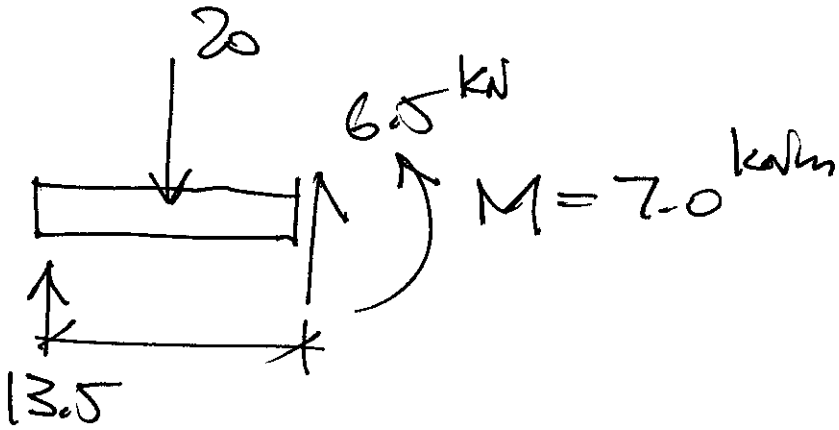
$\Sigma M@A = 0$: $3^{kN}(6m) + 20^{kN}(1m) - B_y \cdot 4m = 0$

+↻ $B_y = 9.5^{kN}$

$A_x = 0$
$A_y = 13.5^{kN}\uparrow$
$B_y = 9.5^{kN}\uparrow$

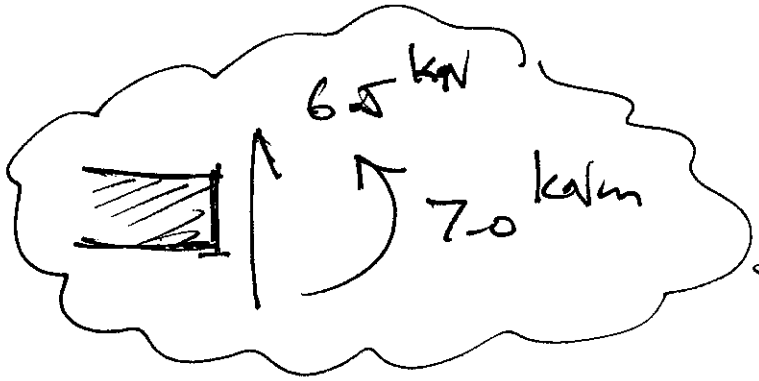
Summary

(b)



$\Sigma M@cut = 0$ $13.5^{kN}(2.0m) - 20^{kN}(1m) - M = 0$

+↻ $M = 7.0^{kNm}$



Summary

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