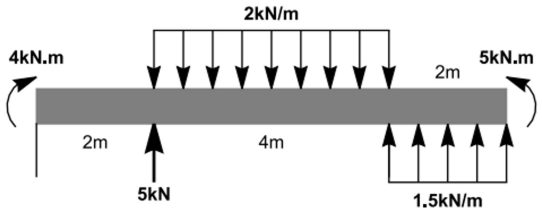
Exam 4-1

Thursday, December 3, 2020 4:48 PM

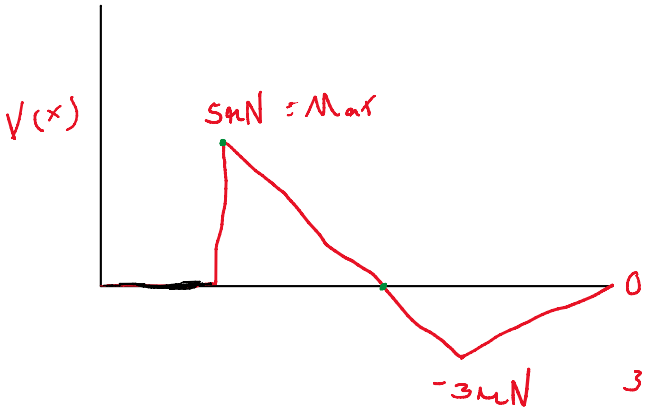
Alex Gaskins

1. Consider the beam pictured to the right.
   a. Draw the Shear Force Diagram for the beam
   b. Determine the maximum shear force and its location
   c. Draw the Bending Moment Diagram for the beam
   d. Determine the maximum bending moment and its location



2(4) = 8

A.)



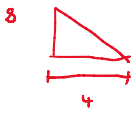
3 (2)(.5) = 3

1.5 (3)(.5) = 2.25

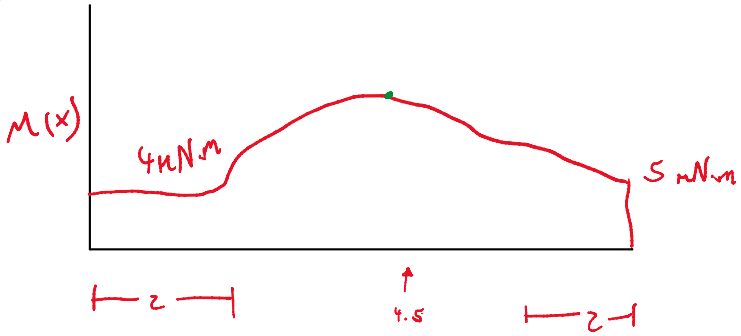
B.) $V_{max} = 5\ kN$ @ 2 m.

$\frac{8}{4} = \frac{3}{x}$; $x = \frac{3}{2}$

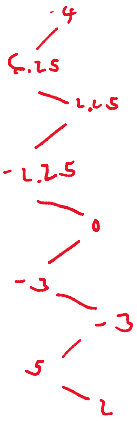
$x' = 2.5$ m.



C.)



2.5 + 2 = 4.5 m.



D.)

@ 4.5 m. $M_{max} = 10.25\ kN \cdot m$