Shear and Moment diagram of Beams. Question 6-5 solution

Sunday, 9 March, 2025 05:00 PM

6-5. Draw the shear and moment diagrams for the beam.

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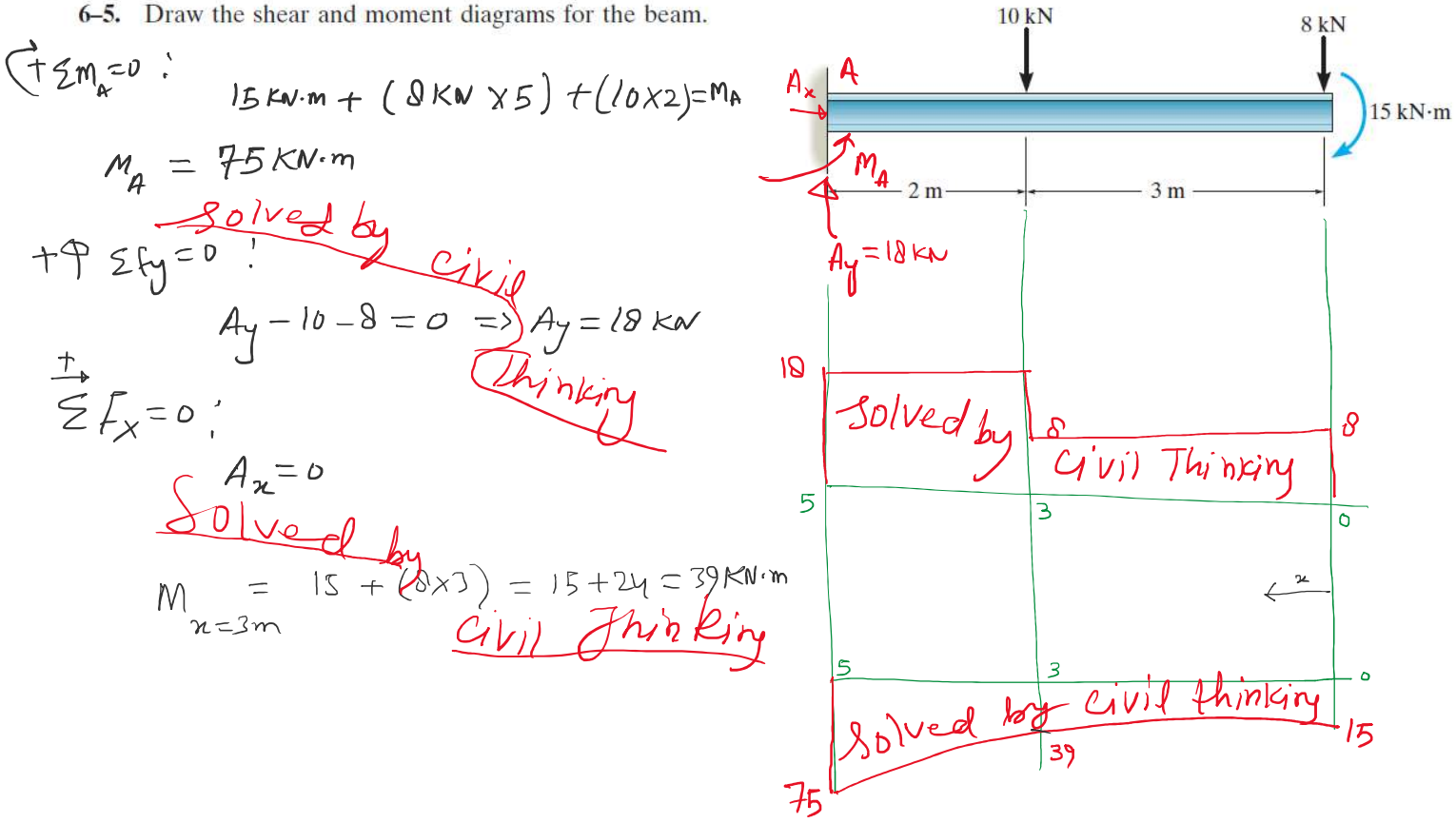

$+\circlearrowleft \Sigma M_A = 0$:

$15\ kN\cdot m + (8\ kN \times 5) + (10 \times 2) = M_A$

$M_A = 75\ kN\cdot m$

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$+\uparrow \Sigma F_y = 0$:

$A_y - 10 - 8 = 0 \Rightarrow A_y = 18\ kN$

$\xrightarrow{+} \Sigma F_x = 0$:

$A_x = 0$

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$M_{x=3m} = 15 + (8 \times 3) = 15 + 24 = 39\ kN\cdot m$

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