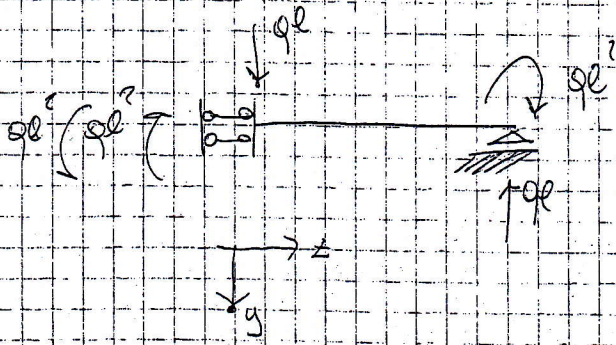


A1



$$M_z = -qlz$$

$$\frac{d^2 v(z)}{dz^2} = \frac{qlz}{EI}$$

$$\frac{dv(z)}{dz} = \frac{qlz^2}{2EI} + C_1 = -\varphi_z \quad \varphi_z = -\frac{qlz^2}{2EI} - C_1$$

$$v(z) = \frac{qlz^3}{6EI} + C_1z + C_2$$

①  $\varphi_A = 0$

②  $v_B = 0$

Per  $z=0$   $\varphi(0) = 0$   $C_1 = 0$

Per  $z=l$   $v(l) = 0$   $\frac{ql^4}{6EI} + C_2 = 0$   $C_2 = -\frac{ql^4}{6EI}$

$$v(z) = \frac{qlz^3}{6EI} - \frac{ql^4}{6EI}$$

$$\varphi(z) = -\frac{qlz^2}{2EI}$$

$$v_A = -\frac{ql^4}{6EI} = -52 \text{ cm}$$