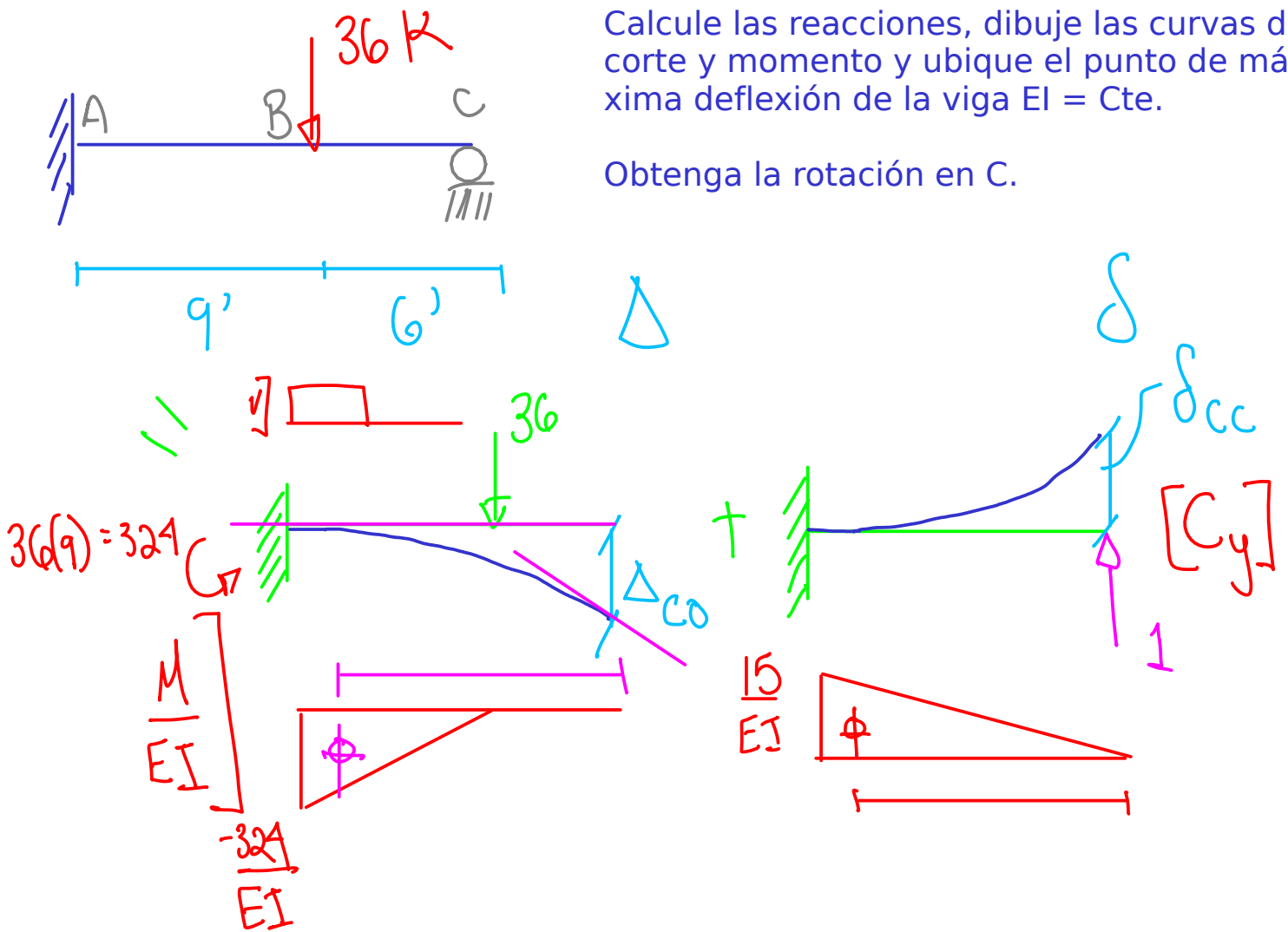


Calcule las reacciones, dibuje las curvas de corte y momento y ubique el punto de máxima deflexión de la viga $EI = \text{Cte}$.

Obtenga la rotación en C.



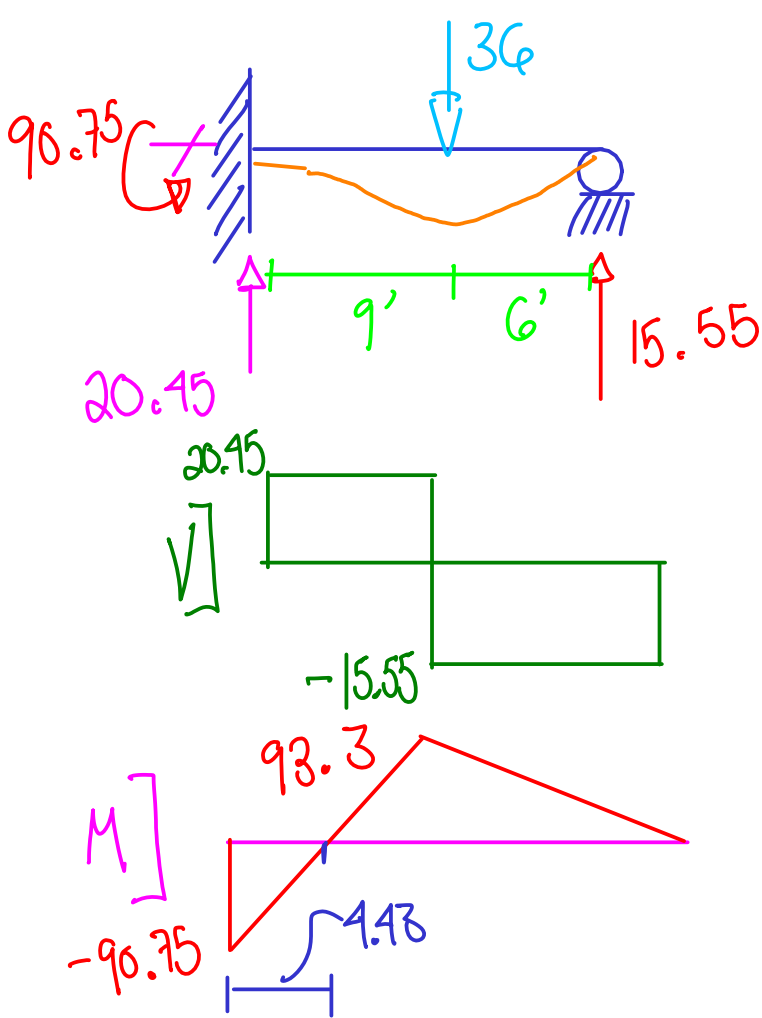
$$\Delta_{co} = t_{C/A} = \frac{1}{2} (9) \left(\frac{-324}{EI} \right) \left(6 + \frac{2}{3} \cdot 9 \right) = \frac{-17,496}{EI}$$

$$\delta_{cc} = t_{C/A} = \frac{1}{2} (15) \left(\frac{15}{EI} \right) \left(\frac{2}{3} \cdot 15 \right) = \frac{1125}{EI}$$

Ecuación de compatibilidad

$$\Delta_{co} + \delta_{cc} C_y = 0$$

$$C_y = \frac{\Delta_{co}}{\delta_{cc}} = \frac{17496}{1125} = 15.55 \text{ Kips}$$



$$\sum F_y = -36 + 15.55 + A_y = 0$$

$$A_y = 20.45 \text{ k} \uparrow$$

$$\sum M_A = M_A + 36(9) - 15.55(15) = 0$$

$$M_A = -90.75 \text{ k} \curvearrowright$$

$$M_A = 90.75 \text{ k} \curvearrowleft$$

$$-90.75 + 20.45(9) = 93.3$$

$$93.3 - 15.55(6) = 0$$

$$-90.75 + x(20.45) = 0 \quad x = 4.43 \text{ ft}$$

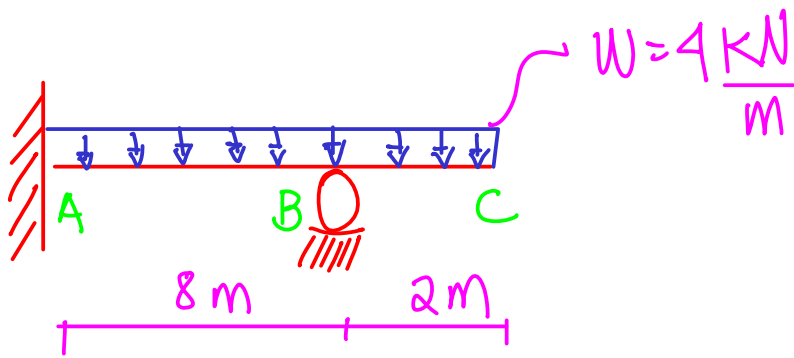
$$\delta_{\max} = ?$$

$$\theta = 0 \rightarrow 2x = 4.43(2) = 8.86 \text{ ft}$$

$$\delta_{\max} \rightarrow$$

$$\theta_c = ?$$

$$\theta_c = \frac{1}{2}(4.43)\left(\frac{-90.75}{EI}\right) + \frac{1}{2}(15-4.43)\left(\frac{93.3}{EI}\right) = \frac{292}{EI}$$



Reacciones

V

M

δ_C

$I = 180 \text{ in}^4$ $E = 29,000 \text{ Ksi}$