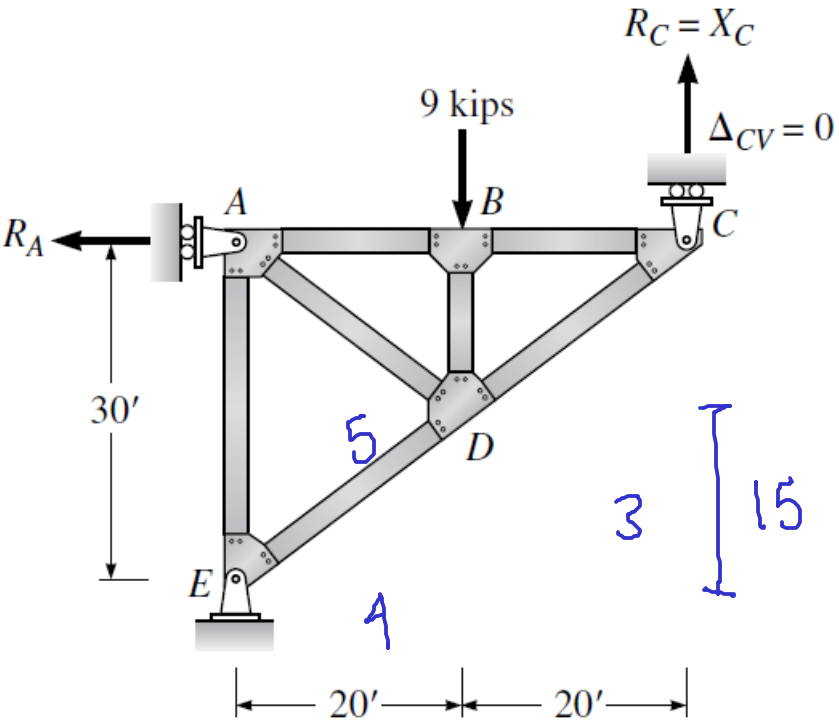
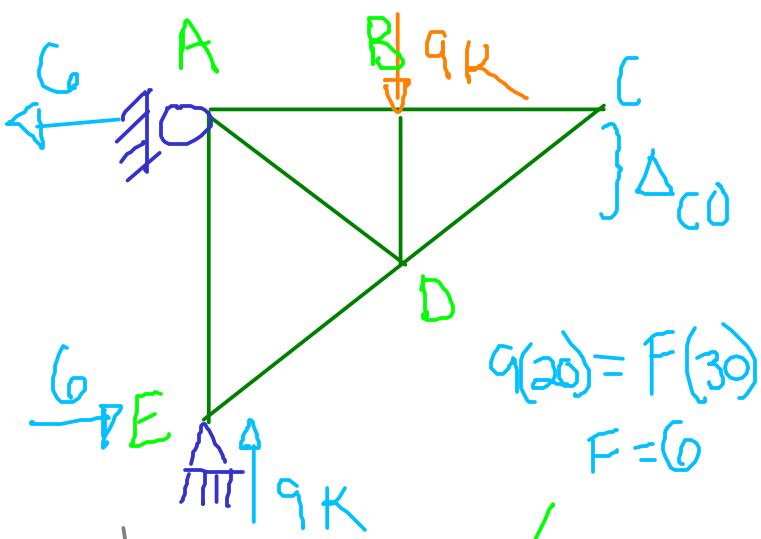
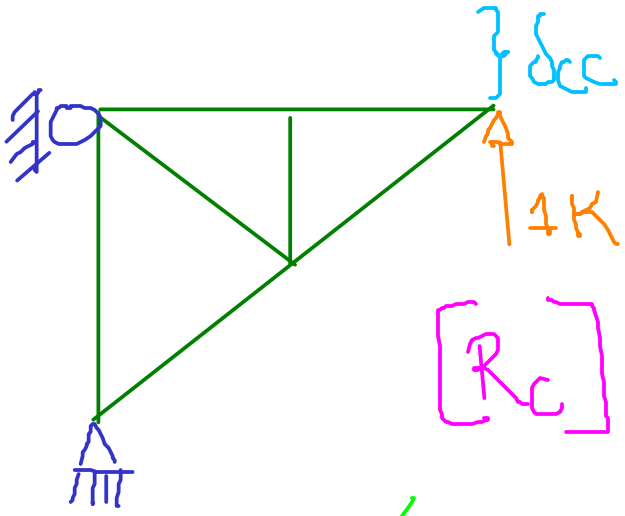
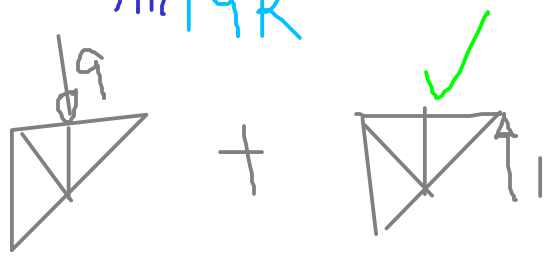


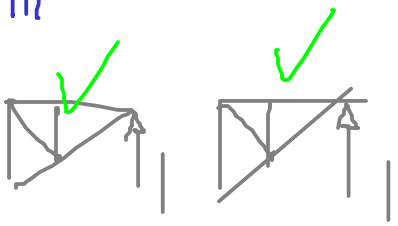
Determinar las reacciones

→ Tomar R_C como redundante

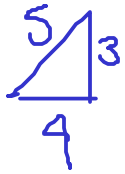


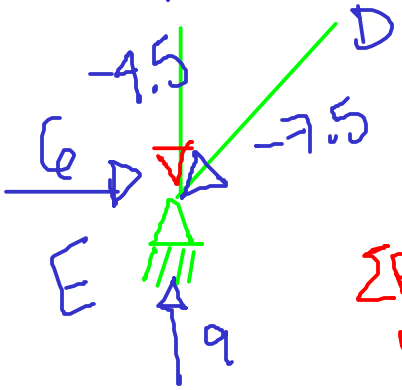






Nodo E





$\Sigma F_x = 0 = 6 - F_{ED}\left(\frac{4}{5}\right) \rightarrow F_{ED} = 7.5$ COMPR

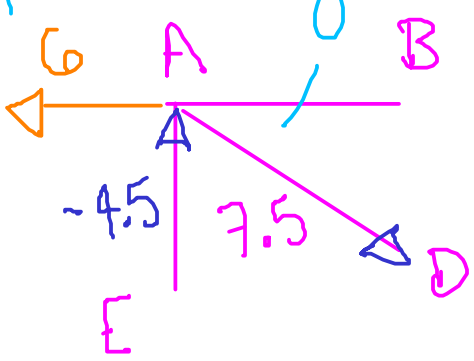
$\Sigma F_y = 0 = 9 - 7.5\left(\frac{3}{5}\right) - F_{AE}$

$F_{AE} = 4.5$ (compr.)

−7.5

−4.5

Nodo A

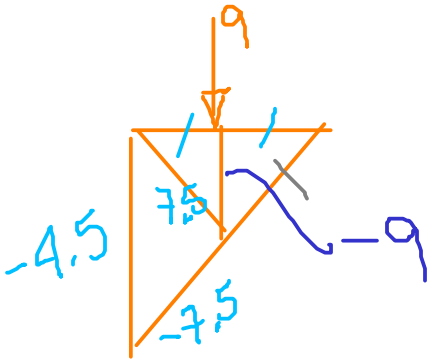


$$\Sigma F_y = 4.5 - F_{AD}\left(\frac{3}{5}\right) = 0$$

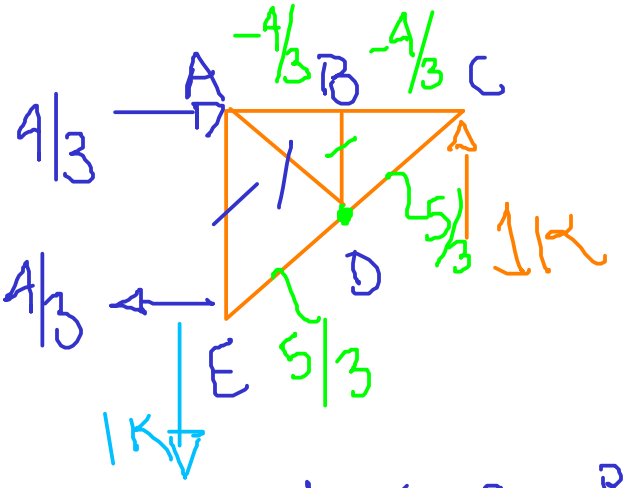
$$F_{AD} = 7.5$$

$$\Sigma F_x = -6 + 7.5\left(\frac{4}{5}\right) + F_{AB} = 0$$

$$F_{AB} = 0$$



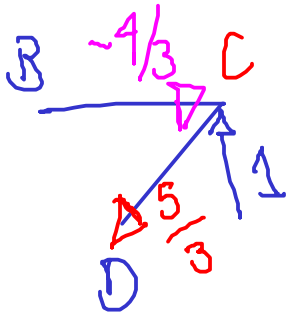
✓



$$(1)(40) = (30)(F)$$

$$F = \frac{4}{3}$$

Nodo C



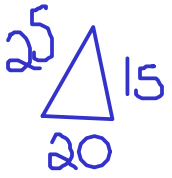
$$\Sigma F_y = 1 - F_{DC}\left(\frac{3}{5}\right) = 0$$

$$F_{DC} = \frac{5}{3}$$

$$\Sigma F_x = -\frac{5}{3}\left(\frac{4}{5}\right) + F_{BC} = 0$$

$$F_{BC} = \frac{4}{3}$$

$$1K\,\delta_{pC} = \sum \frac{F_Q F_p L}{AE}$$



	F_p	F_Q	L
AE	-4.5	0	30
AD	7.5	0	25
AB	0	$-4/3$	20
BD	-9	0	15
BC	0	$-4/3$	20
DC	0	$5/3$	25
ED	-7.5	$5/3$	25

$$1K\,\delta_{pV_C} = \frac{\frac{5}{3}(-7.5)(25\times 12)}{AE}$$

$$\Delta_{C0} = -\frac{3750}{AE} \quad (\downarrow)$$

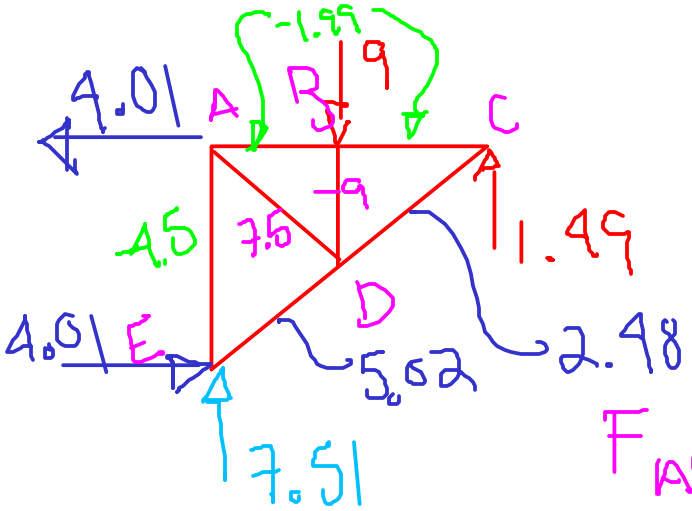
✓

$$1K\,\delta_{pV_{CR}} = \sum \frac{F_Q^2 L}{AE}$$

$$= \frac{\left(-\frac{4}{3}\right)^2 20\times 12}{AE}(2) + \frac{\left(\frac{5}{3}\right)^2 25\times 12}{AE}(2) = \frac{2520}{AE} \quad (\uparrow)$$

$$\Delta_{C0} + \delta_{CC} R_C = 0$$

$$-\frac{3750}{AE} + \frac{2520}{AE} R_C = 0 \quad \rightarrow R_C = \underline{1.49} \text{ Kip.}$$



$$\Sigma M_A = 9(20) - 1.99(40) - F(30) = 0$$

$$F = 4.01 \text{ K}$$

$$F_{AE} = -4.5 + 0(1.99) = -4.5$$

$$F_{AB} = 0 - \frac{4}{3}(1.99) = -1.99$$

$$F_{BC} = 0 - \frac{4}{3}(1.99) = -1.99$$

$$F_{AD} = 7.5 + 0(1.99) = 7.5$$

$$F_{BD} = -9 + 0(1.99) = -9$$

$$F_{ED} = -7.5 + \frac{5}{3}(1.99) = 5.62$$

$$F_{DC} = 0 + \frac{5}{3}(1.99) = 2.98$$