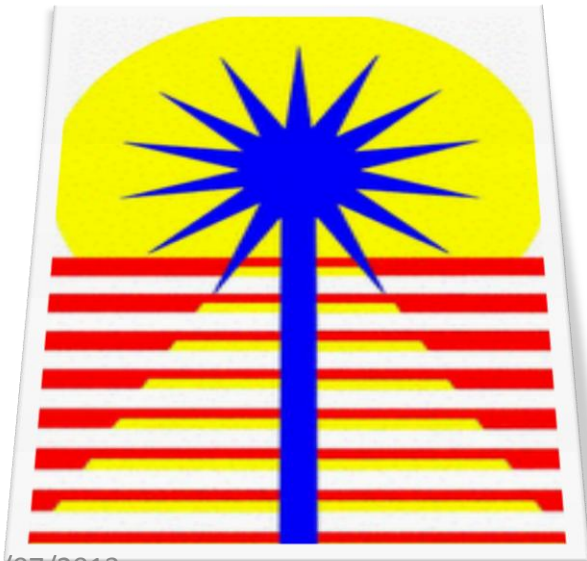


Velocidades Relativas

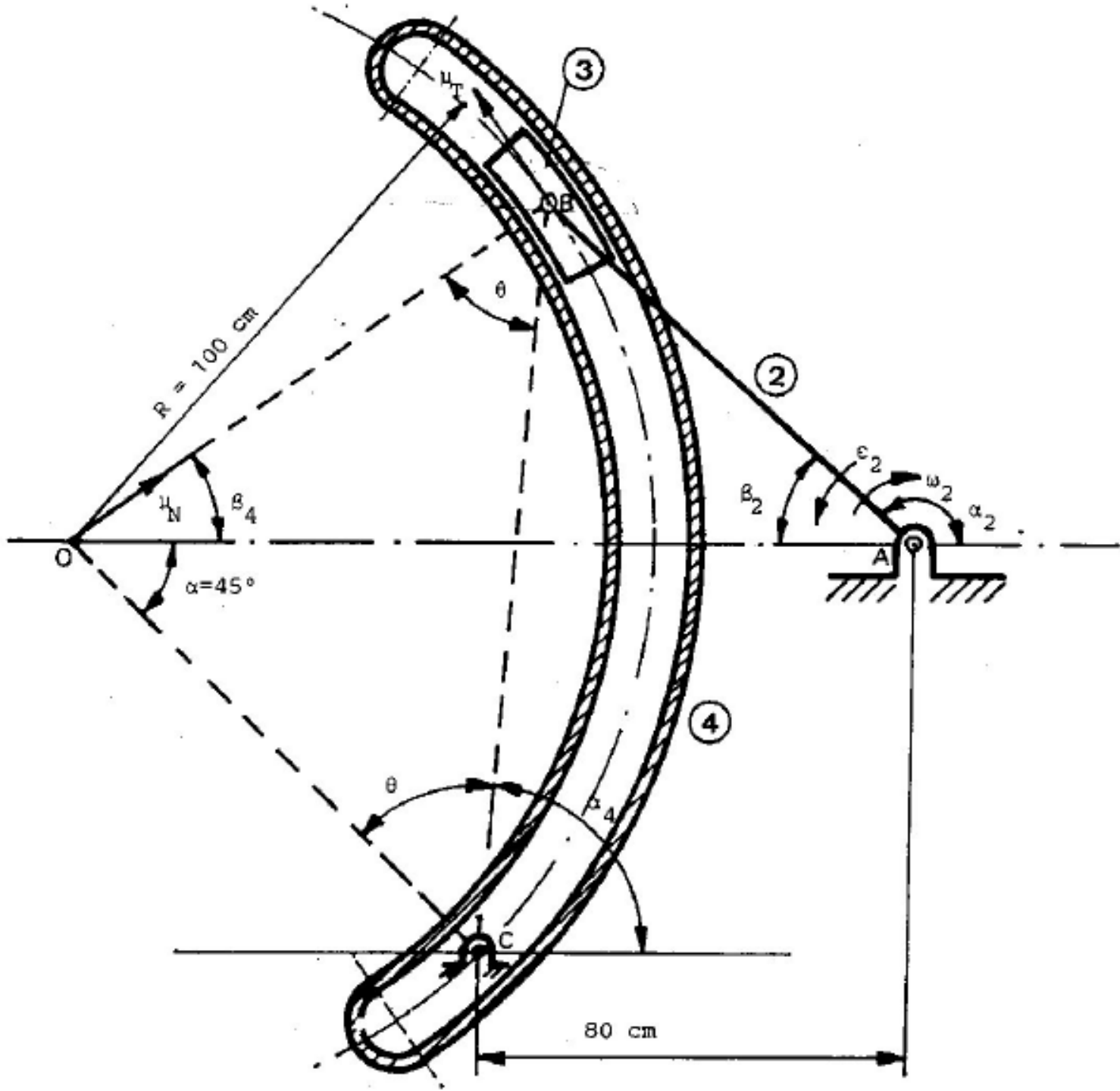
(Cinema de Velocidades)



Problema Resuelto #8

Prof. Charles Delgado

Problema:
 Determinar
 la Velocidad
 Angular del
 elemento
 curvo y del
 pistón si
 $n_2 = 1500$
 rpm en
 sentido
 horario



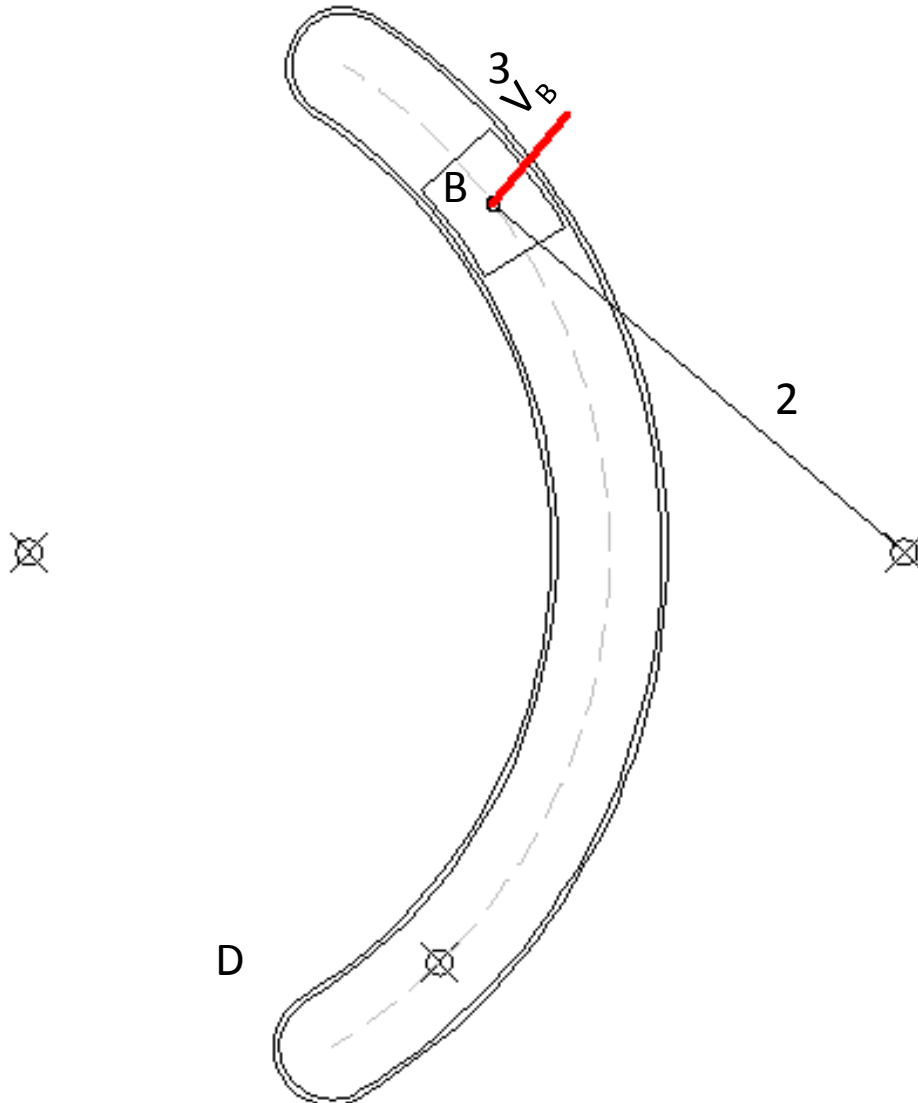
Velocidad Inicial

$$VA = \omega_2 \times r_2$$

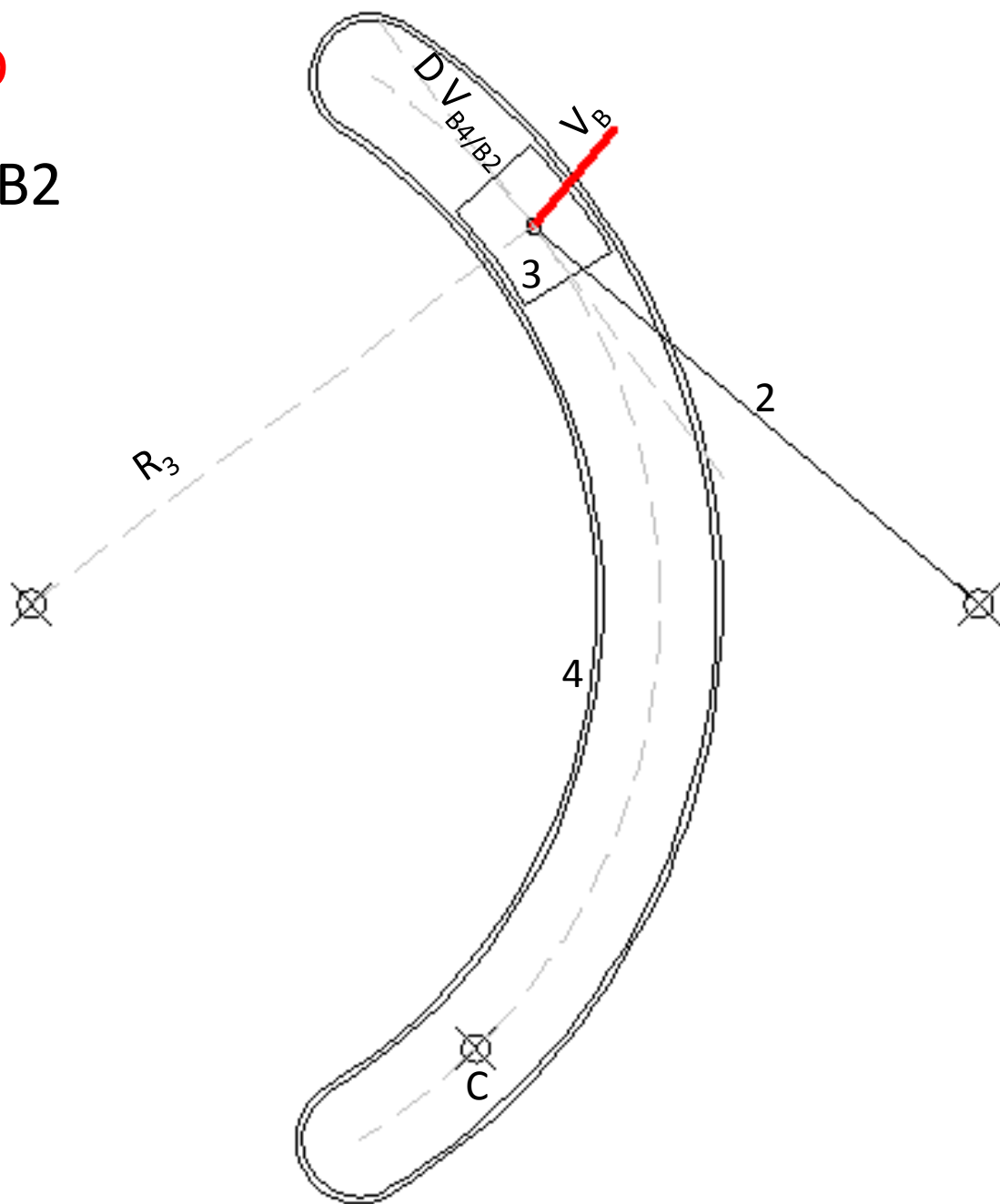
$$\omega_2 = 1500 \text{ rev/min} \times 2.\pi \text{ rad/1 rev} \times 1 \text{ min/60 s}$$

$$\omega_2 = 1577.08 \text{ rad/s}$$

$$Kv = VA / \mathbf{10 \text{ cm}}$$



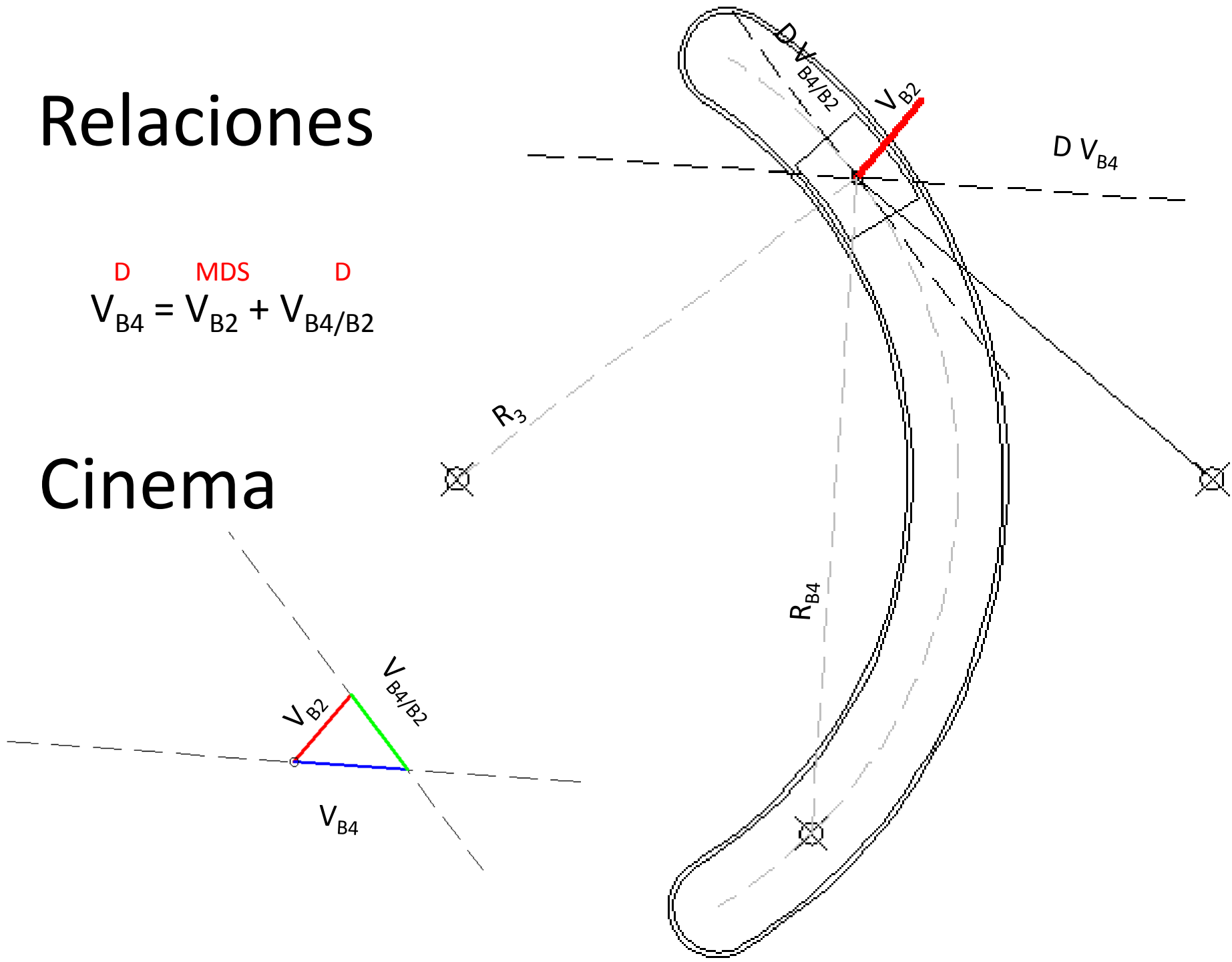
$$V_{B4}^D = V_{B2}^{MDS} + V_{B4/B2}^D$$



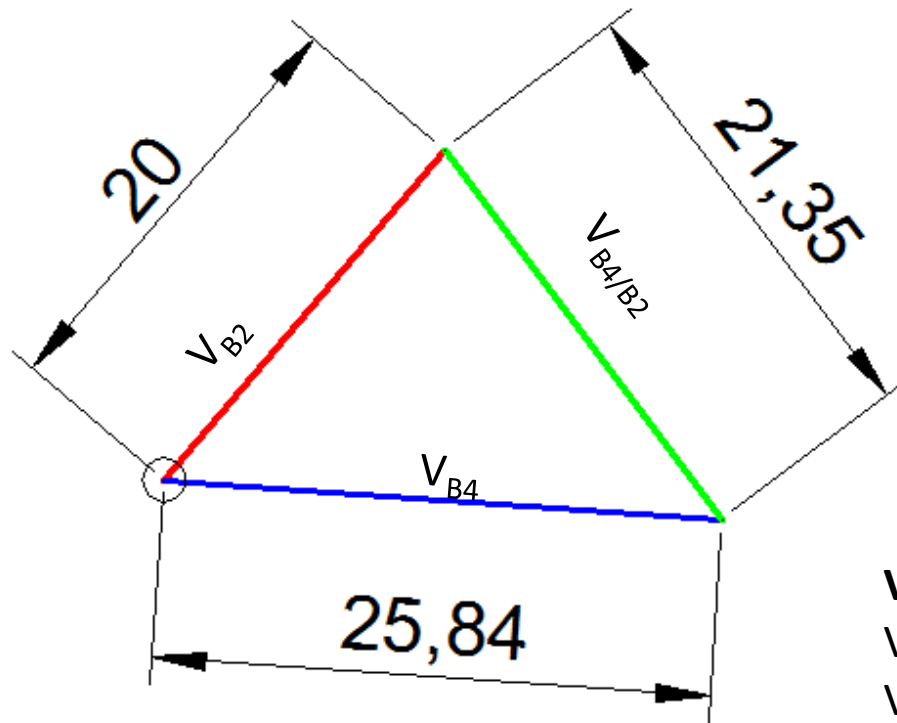
Relaciones

$${}^D V_{B4} = {}^M V_{B2} + {}^D V_{B4/B2}$$

Cinema



Respuesta



Ventaja Mecánica

$$VM = V_{B4} / V_{B2}$$

$$VM = 25.84 / 20$$

$$VM = 1.292$$

Nota: $V_{B4/B2} = V_3$