

Semana 7#

$$1) T = 24 \times 3600$$

$$V = \frac{2\pi R}{T}$$

$$V = \frac{2\pi (6400 \text{ km})}{24 \text{ h}}$$

$$V = \frac{1600}{3} \text{ km/h}$$

$$2) (\text{sol: } 7,26 \cdot 10^{-5} \text{ rad/s})$$

$$3) \omega = v/R \quad 90 \text{ km/h} = 90 \cdot 1000 / 3600$$

$$= 25 \text{ m/s}$$

$$25 / 1,14 = 17,85 \text{ rad/s}$$

$$4) \text{Frecuencia } 2000 \text{ rev/min} = 33,333 \text{ rev/sec}$$

$$\omega = 2 \times \pi = 33,333 \text{ rev/sec}$$

$$\omega = 209,437 \text{ rad/sec} = 11999,856^\circ$$

$$\text{Velocidad angular} = 12000^\circ/\text{s}$$

$$6. \omega = 35.4 \text{ rad/sec}$$

$$R = 1.2 \text{ m}$$

$$V = \omega R = 35.4 \text{ rad/sec} \times 1.2 \text{ m} = 42.48 \text{ m/s}$$

$$7) \text{ angulo} = 2\pi \text{ rad}$$

$$T = 0.25 \text{ seg}$$

$$r = 30 \text{ cm} = 0.3 \text{ m}$$

$$\omega = 2\pi \text{ rad} / 0.25 \text{ seg}$$

$$\omega = 8 \text{ rad/sec}$$

$$V = 8 \text{ rad/sec} \times 0.3 \text{ m}$$

$$h = 2\pi \text{ rad} / 2\pi \text{ rad}$$

$$T = \frac{2\pi \text{ rad}}{0.25 \text{ seg}}$$

$$8) F = 400 \text{ vueltas} / 300 \text{ s} = 1,33 \text{ v/s}$$

$$T = 300 \text{ s} / 400 \text{ v} = 0,75 \text{ s}$$

$$\omega = 400 \text{ rev} \cdot 2\pi \text{ rad/rev} / 300 \text{ s} \\ = 8,34 \text{ rad/s}$$

$$v = \omega R = 8,34 \text{ rad/s} \cdot 0,5 \text{ m} = \\ 4,17 \text{ m/s}$$