





$$v = 50 \text{ km/hr} = 1 \text{ km/h} = 0.2777778 \text{ m/s}$$

$$F = P \div v$$

$$F = 30075.19 \div 93.28 = 2166.80 \text{ Nw}$$

$$t = 40 \text{ sg}, m = 350 \text{ kg}, h = 18 \text{ m}$$

$$T = m \cdot g \cdot h \quad P = T \div t$$

$$T = 350 \cdot 9.81 \cdot 18 = 61803 \text{ J}$$

$$P = 61803 \div 40 = 1545.08 \text{ WATTTS}$$

$$P = 1545.08 \div 1000 = 1.54508 \text{ kW}$$

$$t = 5 \text{ mm} = 300 \text{ sg}, m = 25000 \text{ kg}, h = 16 \text{ km}$$

$$T = m \cdot g \cdot d \quad P = T \div t$$

$$T = 25000 \cdot 9.81 \cdot 1600 = 392400000 \text{ J}$$

$$P = 392400000 \div 300 = 1308000 \text{ W}$$

$$P = 1308000 \cdot 1.33 \div 1000 = 1739.64 \text{ cv}$$

$$P = 6 \text{ cv} (6 \cdot 1000 \div 1.33) 4511.28$$

$$v = 25 \text{ km/h} = 6.944 \text{ m/s}$$

$$P_{\text{cso}} = \text{Potencia} \quad P = 4511.28 \text{ W} = 6.944 \text{ m/s} \cdot 0.2$$

$$v \cdot t$$

$$P = 4511.28 \text{ W} \div 1.388$$

$$3248.33 \text{ Nw}$$

$$m = 10 \text{ Dm}^3 = V = 10 \text{ L} = 10 \text{ Kg} \quad h = 3 \text{ m}$$

$$T = m \cdot g \cdot h$$

$$T = 10 \text{ Kg} \cdot 9.81 \cdot 3 = 294.30 \text{ J}$$

¿Que trabajo hace el peso del agua?  
294.30 J

$$F = 20 \text{ 000 N} \quad d = 1 \text{ km} = 1000 \text{ m} \quad m = 20 \text{ TON}$$

$$T = F \cdot d \cdot \cos$$

$$T = 20000 \cdot 1000 = 20000 \text{ 000 J}$$

¿Que trabajo hace por cada hora si la velocidad es  
36 km/h?

$$T = 20 \text{ 000 000} \cdot 36 = 72000 \text{ 000 000 J}$$

$$F = 300 \text{ N} \quad d = 10 \text{ m} \quad h = 75 \text{ cm} \quad m = 65 \text{ Kg}$$

$$T = F \cdot d$$

$$T = 300 \cdot 10 = 3000 \text{ J}$$

¿Que trabajo hace al subir a un camion cuya plataforma  
esta a 75 cm del suelo?

$$T = 65 \cdot 9.81 \cdot 0.75 = 478.24 \text{ J}$$

$$T = m \cdot g \cdot h \quad \text{Trabajo total} = 3000 + 478.24 = 3478.24 \text{ J}$$

$$F = 24 \text{ N} \quad d = 10 \text{ m} \quad T = F \cdot d \cdot \cos$$

$$A) 24 \cdot 10 \cos(30^\circ) = 24 \cdot 10 \cdot 0.86660259 = 207.98 \text{ J} //$$

$$B) 24 \cdot 10 \cos(90^\circ) = 24 \cdot 10 \cdot 0 = 0 \text{ J} //$$

$$C) 24 \cdot 10 \cos(120^\circ) = 24 \cdot 10(-0.5) = -120 \text{ J} //$$

$$T = 2 \text{ m} = 120 \text{ s} \quad m = 15000 \text{ kg} \quad h = 1560 \text{ cm} = 15 \text{ m}$$

$$T = m \cdot g \cdot h = P = T \div t$$

$$T = 15000 \text{ kg} \cdot 9.81 \cdot 15 \text{ m} = 220725 \text{ J}$$

$$P = 220725 \text{ J} \div 120 \text{ s} = 1839.38 \text{ W}$$

$$P = 1839.38 \div 1000 = 1.83938 \text{ kW}$$

$$P = 1.83938 \cdot 1.53 / 1000 = 2.4463 \text{ CV}$$

Distancia

$$m = 200 \text{ kg}$$

$$v = 30 \text{ m/s}$$

$$P = 500 \text{ N}$$

$$F \cdot d = m \cdot a \cdot d$$

$$F \cdot d = m \cdot g$$

$$d = \frac{m \cdot g}{F}$$

$$d = \frac{(200 \text{ kg})(9.8 \text{ m/s}^2)}{500 \text{ N}} = 3.92 \text{ m}$$

Velocidad

$$F = 12.5 \text{ kg} \rightarrow \text{N} (m \cdot g)$$

$$9.81 = 122.6 \text{ g}$$

$$D = 6$$

$$M = 250 \text{ kg}$$

$$v = \sqrt{2 \left( \frac{F \cdot d}{m} \right)}$$

$$v = \left( \frac{2 \cdot 45.24}{250} \right) (12) = \frac{2942.82}{250}$$

$$v = 11.77 \text{ m/s}$$

$E_c$

$$m = 0.006 \text{ kg}$$

$$v = 500 \text{ m/s}^2$$

$$E_c = \frac{m \cdot v^2}{2}$$

$$E_{oc} = 1.5 \text{ J}$$

$$E_c = \frac{(0.006 \text{ kg})(500 \text{ m/s})^2}{2}$$

$$\textcircled{1} \quad F = 30 \text{ N} \quad d = 60 \text{ cm} = 0.6 \text{ m} \\ T = 18 \text{ J} \quad T = F \cos 10 \quad T = 30 \cdot 0.86 \cdot 0.6$$

$$\textcircled{2} \quad m = 25 \text{ kg} \quad h = 6.4 \text{ m} \\ T = m \cdot g \cdot h \quad T = 25 \cdot 9.81 \cdot 6.4 = 1569 \text{ J}$$

$$\textcircled{3} \quad F = 3 \text{ N} \quad d = 1.200 \text{ m} \\ T = 3.6 \text{ J} \quad T = F \cdot d \quad T = 3 \cdot 1.200 \quad T = 3.6 \text{ J}$$

$$F = 12 \text{ N} \quad d = 7 \text{ m}$$

$$T = 84 \text{ J} \quad T = F \cdot d \quad T = 12 \cdot 7 \quad F = 84 \text{ J}$$

$$M = 50 \text{ kg} \quad d = 8 \text{ m}$$

$$T = m \cdot g \cdot h \quad a) \quad T = 50 \cdot 9.81 \cdot 8 = 3924 \text{ J}$$

$$T = F \cdot d \cdot \cos \theta \quad b) \quad T = 50 \cdot 8 \cdot 0 = 0 \text{ J}$$

