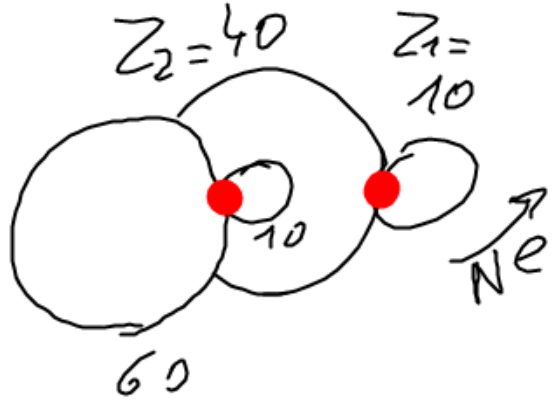
$$\eta = \frac{\prod Z_{menantes}}{\prod Z_{menées}}$$

$$\eta = \frac{N_{sortie}}{N_{entrée}} = \frac{\omega_{sortie}}{\omega_{entrée}}$$

$$\omega = \frac{\pi . N}{30}$$

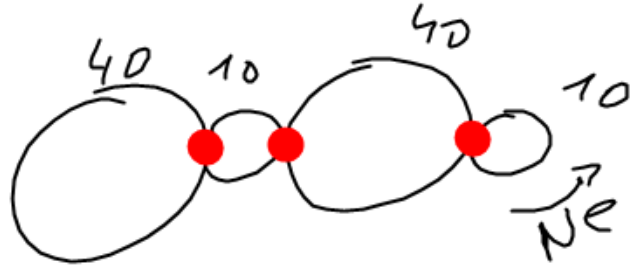


$$\tau = \frac{10 \cdot 10}{40 \cdot 60} = \frac{1}{24}$$

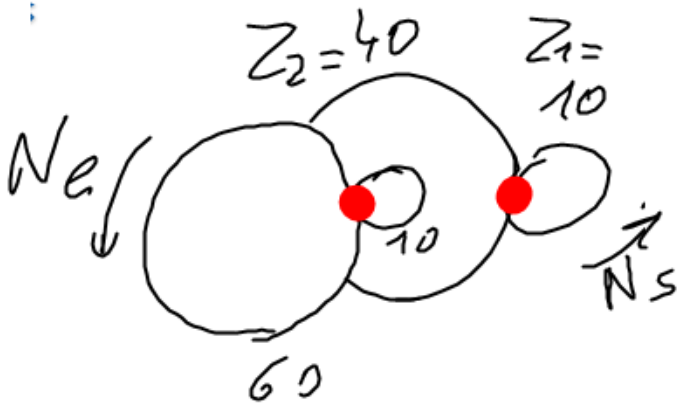
$N_e = 8000\ tr/\text{min}$

$$\tau = \frac{N_s}{N_e} \qquad N_s = \tau \cdot N_e$$

$$N_s = \frac{1}{24} \cdot 8000 \simeq 333\ tr/\text{min}$$



$$\tau = \frac{10 \cdot \cancel{40} \cdot \cancel{10}}{\cancel{40} \cdot \cancel{10} \cdot 40} = \frac{1}{4}$$

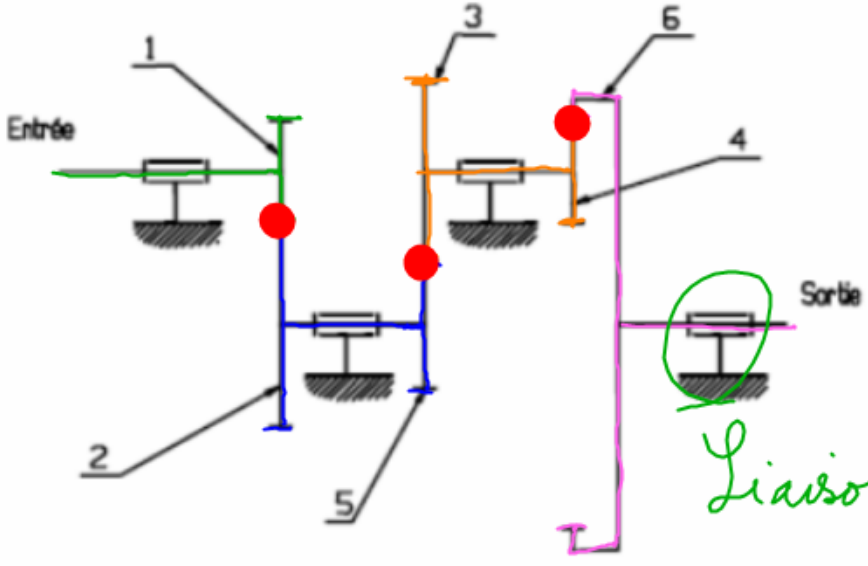


$$r = \frac{60 \cdot 40}{10 \cdot 10} = 24$$

$$r = \frac{N_s}{N_e} \qquad N_e = 20 \text{ tr/'}$$

$$N_s = r \cdot N_e \qquad N_s = 24 \cdot 20 = 480 \text{ tr/'}$$

$$\omega_s = \frac{\pi \cdot 480}{30} \simeq 50{,}3 \text{ rad/s}$$



$Z_1 = 32$ dents
$Z_2 = 65$ dents
$Z_3 = 80$ dents
$Z_4 = 18$ dents
$Z_5 = 25$ dents
$Z_6 = 85$ dents

$$r = \frac{Z_1 \cdot Z_5 \cdot Z_4}{Z_2 \cdot Z_3 \cdot Z_6}$$

$$r = \frac{32 \cdot 25 \cdot 18}{64 \cdot 80 \cdot 85}$$

$$r \simeq 0{,}0326 \simeq \frac{1}{30{,}7}$$

$$r = \frac{N_S}{N_e} \qquad N_S = r \cdot N_e$$

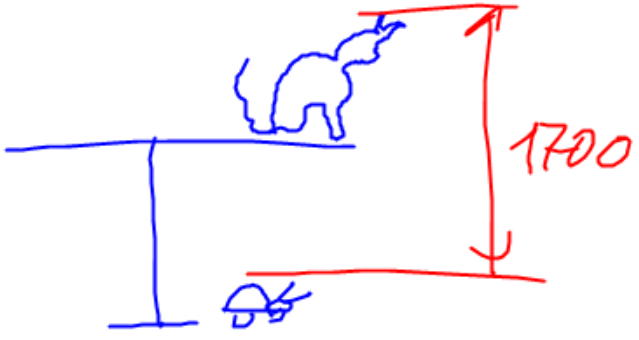
$$N_S = 0{,}0326 \cdot 8000$$

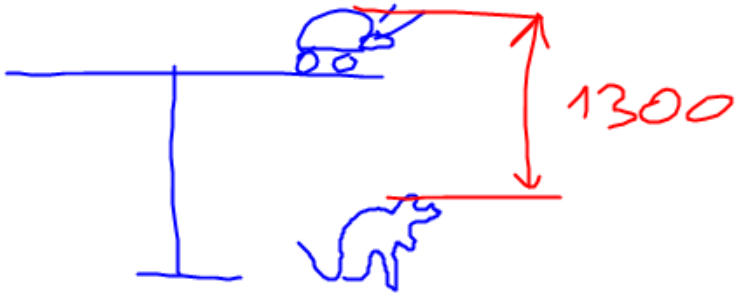
$$\simeq 261 \text{ tr/min}$$

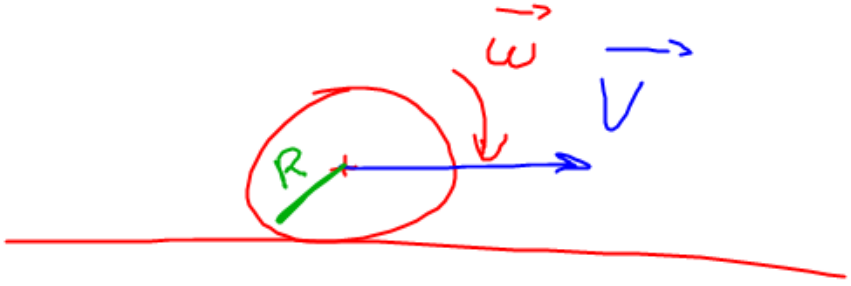
$$\omega_S = \frac{\pi \cdot 261}{30} \simeq 27{,}3 \text{ rad/s}$$

$$\frac{5}{7} \simeq 0,714\ldots$$

$$2 \times A \simeq 1,43$$


1700


1300

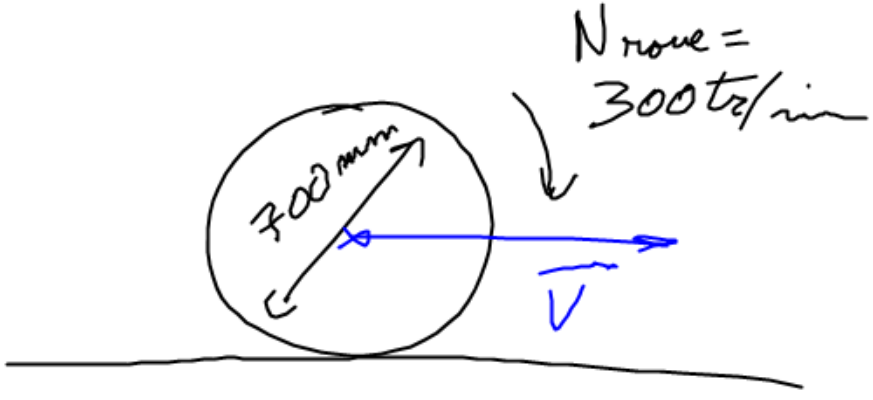


$$V = \omega \cdot R$$

V : m/s, ω : rad/s (1/s), R : m

$$\omega = \frac{\pi N}{30}$$

1 m/s = 3,6 km/h



$$V = \omega \cdot R \quad \text{(m/s ; rad/s ; m)}$$

$$\omega = \frac{\pi N}{30}$$

$$R = \frac{D}{2} \qquad 10^3 \text{ mm} = 1 \text{ m}$$

$1 \text{ m/s} = 3{,}6 \text{ km/h}$

$$\omega = \frac{\pi \cdot 300}{30} \simeq 31{,}4 \text{ rad/s}$$

$$V = 31{,}4 \cdot 0{,}35 \simeq 11 \text{ m/s} \simeq 39{,}6 \text{ km/h}$$

ex 3 robot

$N_{mot} = 7300$ tr/min $\quad \varnothing_{roue} = 62$ mm

$r = \frac{1}{50}$

→ N_{roue} : $r = \frac{N_{roue}}{N_{mot}}$ $\quad N_{roue} = r \cdot N_{mot}$ $\quad N_{roue} = \frac{1}{50} \cdot 7300$

$= 146$ tr/min

→ ω_{roue} : $\omega_{roue} = \frac{\pi \cdot 146}{30} \simeq 15{,}3$ rad/s

→ V_{robot} : $V_{robot} = \omega_{roue} \cdot R_{roue}$ $\quad V_{robot} = 15{,}3 \cdot \frac{62.10^{-3}}{2} \simeq 0{,}474$ m/s

$V_{robot} \simeq 1{,}71$ km/h