$$r = \frac{\prod Z_{\text{menants}} (\varnothing p)}{\prod Z_{\text{menées}} (\varnothing p)}$$

$$(d_p = m.Z)$$

rad/s

$$r = \frac{\omega s}{\omega e} = \frac{Ns}{Ne}$$ — tr/—

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

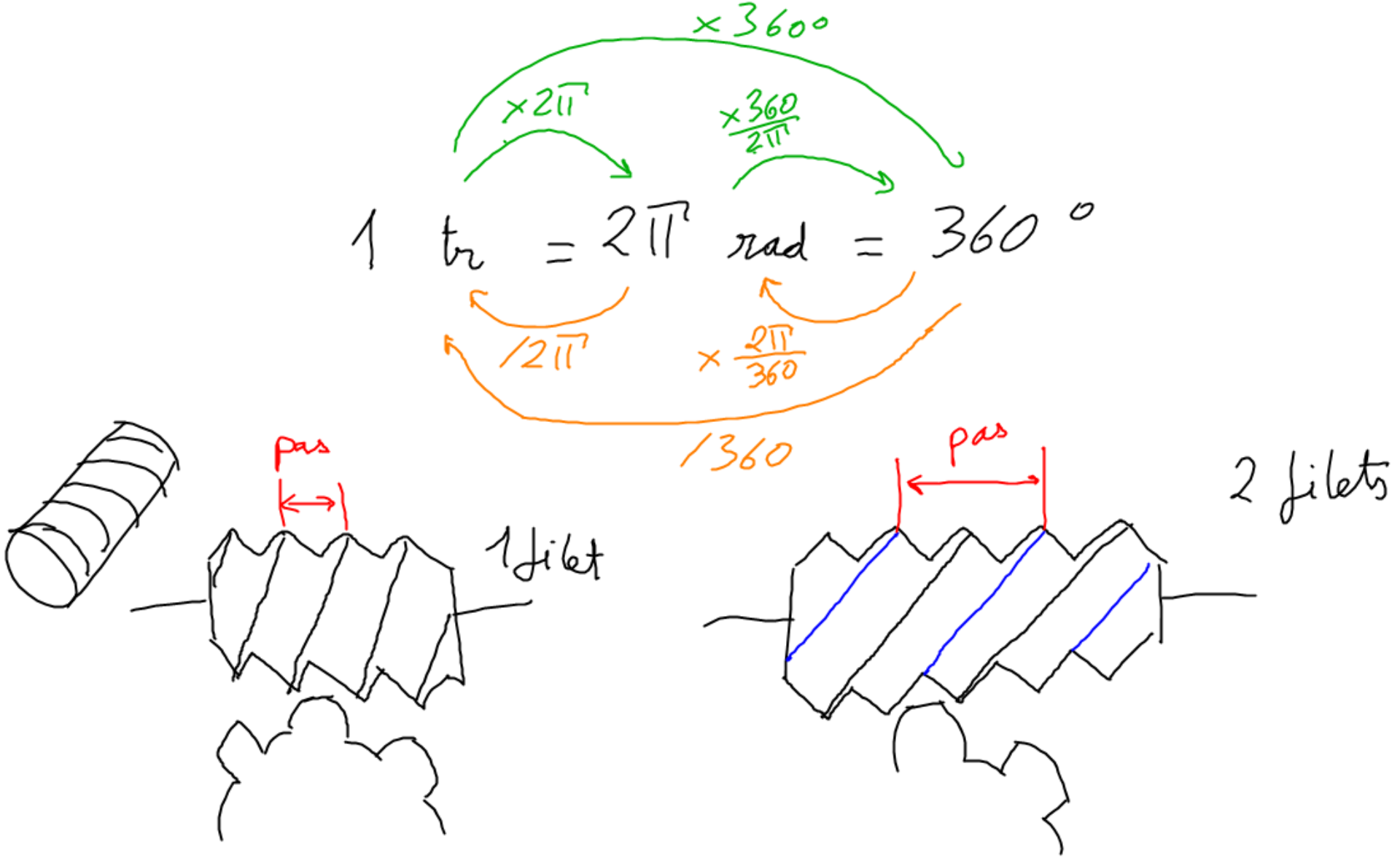
$$V = \omega . R$$

m/s rad/s m

×3,6

1 m/s = 3,6 km/h

/3,6


×360°
×2π
×360/2π
1 tr = 2π rad = 360°
/2π
×2π/360
/360
pas
1 filet
pas
2 filets

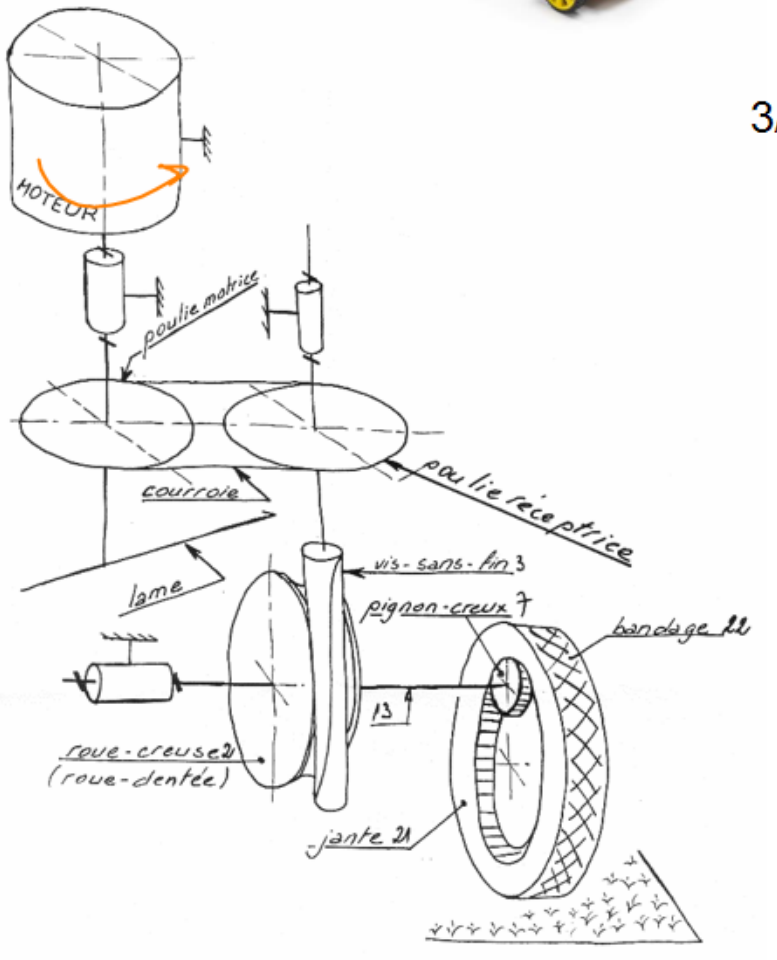
1) $r_g = \frac{100}{150} \cdot \frac{3}{16} \cdot \frac{7}{26} \simeq 0,0337$

$\simeq \frac{1}{29,7}$

2) $r = \frac{N_{roue(22)}}{N_{mot}}$

$N_{roue} = r \cdot N_{mot}$

$N_{roue} = \frac{1}{29,7} \cdot 2850 \simeq 95,9 \text{ tr/mn}$



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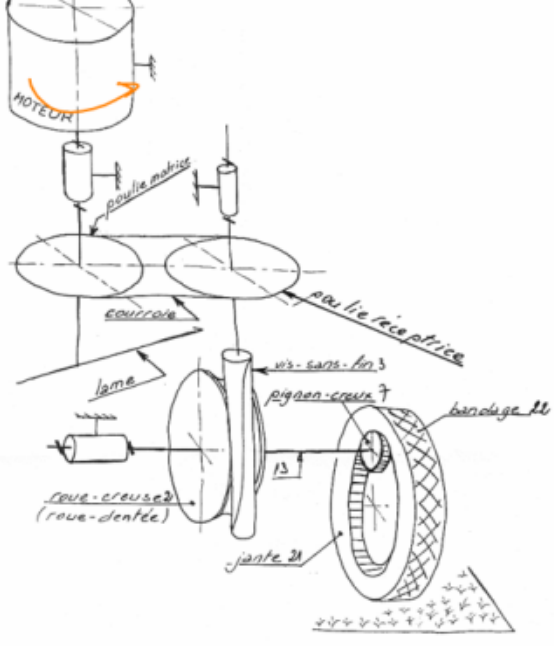


2) $r = \frac{N_{roue(22)}}{N_{mot}}$

$N_{roue} = r \cdot N_{mot}$

$N_{roue} = \frac{1}{29,7} \cdot 2850 \simeq 95,9 \text{ tr/min}$

3) $V_{robot} = \omega_{roue} \cdot R_{roue}$

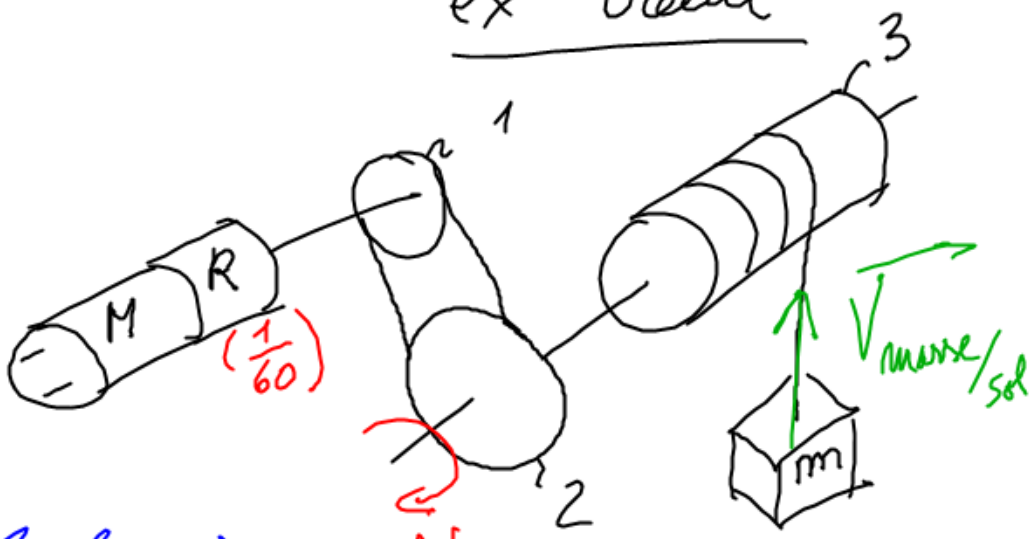
$\omega_{roue} = \frac{\pi \cdot 95,9}{30} \simeq 10 \text{ rad/s}$

$V_{robot} = 10 \cdot \frac{200 \cdot 10^{-3}}{2}$

$V_{robot} = 1 \text{ m/s}$

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

ex treuil



$N_{mot} = 4000$ tr/min

Réduction : $r = \frac{1}{60}$

Ø poulie 1 : 50 mm

Ø poulie 2 : 120 mm

Ø 3 : 60 mm

→ calculer r_g : N_3

$r_g = \frac{1}{60} \cdot \frac{50}{120} = \frac{1}{144}$

→ calculer N_3 : $r = \frac{N_3}{N_{mot}}$ $\quad N_3 = r \cdot N_{mot}$

$N_3 = \frac{1}{144} \cdot 4000 \simeq 27{,}8$ tr/min

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

→ calculer $V_{masse/sol}$: $V_{masse/sol} = \omega_3 \cdot R_{treuil}$ avec $\omega_3 \simeq 2{,}91$ rad/s

$V_{masse/sol} = 2{,}91 \cdot \frac{60.10^{-3}}{2} \simeq 0{,}0873$ m/s $\simeq 0{,}314$ km/h

→ Calculer $V_{masse/sol}$: $V_{masse/sol} = \omega_3 \cdot R_{train}$ avec $\omega_3 \simeq 2,91$ rad/s

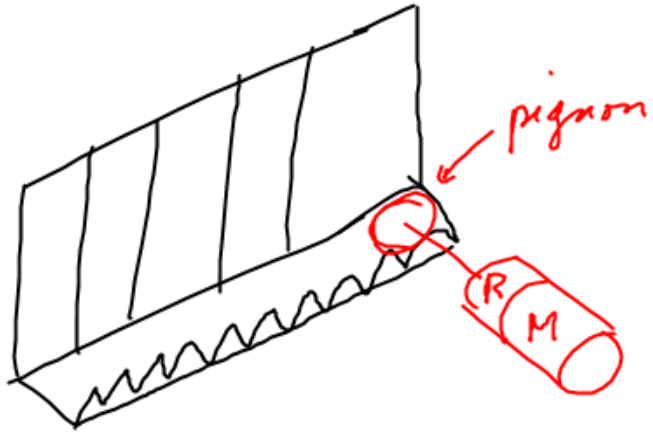
$$V_{masse/sol} = 2,91 \cdot \frac{60.10^{-3}}{2} \simeq 0,0873 \text{ m/s} \simeq 0,314 \text{ km/h}$$

$v = \frac{d}{t}$ (m/s ; m ; s)

$$t = \frac{d}{v}$$

$$t = \frac{2}{0,0873} \simeq 22,9 \text{ s}$$

Portail coulissant du lycée



$N_{mot} \simeq 3400$ tr/min

$V_{vantail}$: ouverture à 1m par 8 s.

$\varnothing_{primitif\ pignon}$: 80 mm

→ $V_{vantail}$:

→ ω_{pignon} :

→ Ω du motoréducteur :