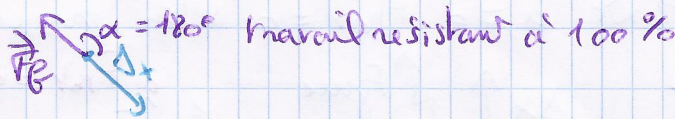
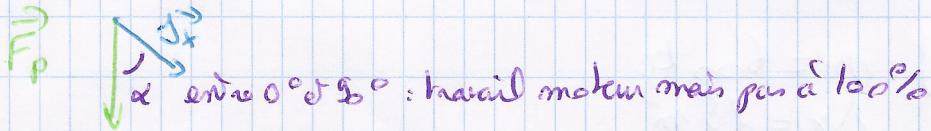
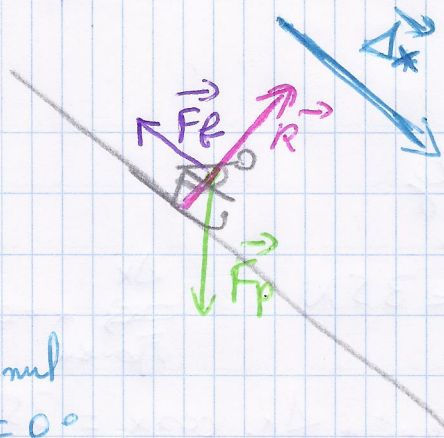
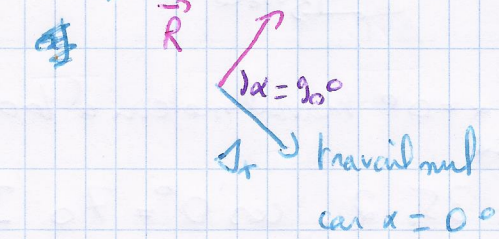
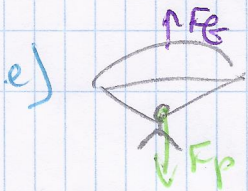
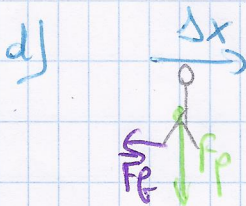
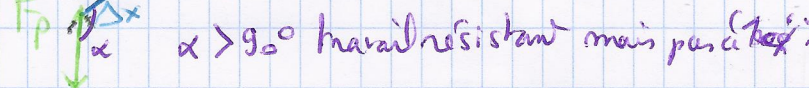
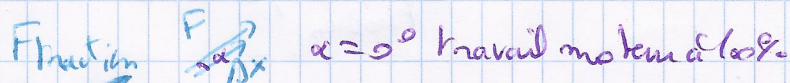
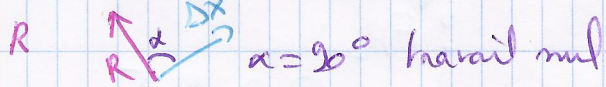
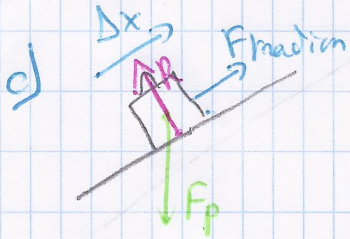
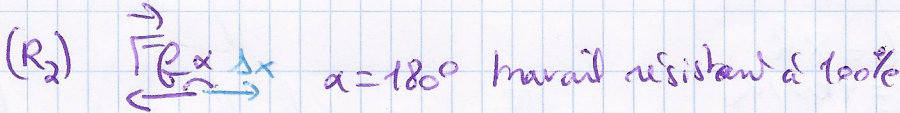
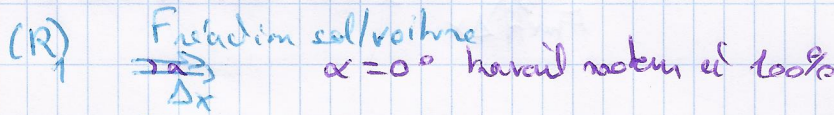
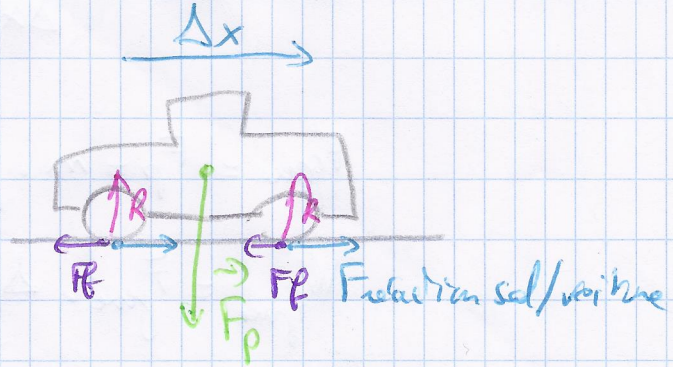
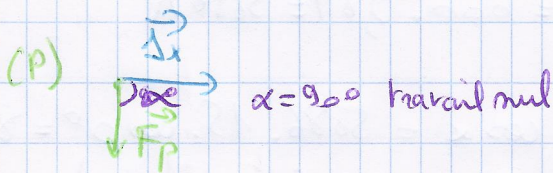


Exercices

T1 a) sur skieur

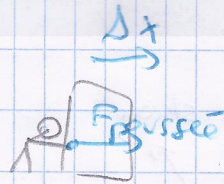


b) sur voiture



T2) $m = 65 \text{ kg}$
 $\Delta x = 2 \text{ m}$

$F_{\text{poussé}} = 35 \text{ N}$



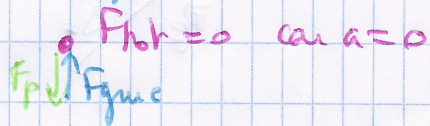
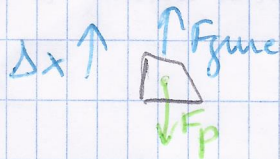
$\frac{\Delta x}{\Delta t} \alpha = 0^\circ$ travail moteur à 100%

$W_{\text{F}_{\text{poussé}}} = F_{\text{poussé}} \cdot \Delta x \cdot \cos \alpha = 35 \cdot 2 \cdot \cos 0^\circ = 70 \text{ J}$

T3) $m = 600 \text{ kg}$
 $\Delta x = 15 \text{ m}$

$v = \text{constante}$ $a = 0$ $F_{\text{rot}} = 0$ selon principe d'inertie

$\Delta t = 30 \text{ s}$

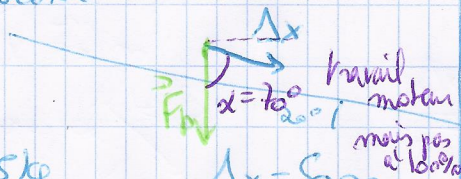


$F_{\text{gme}} = F_p = m \cdot g = 600 \cdot 9,81 = 5886 \text{ N}$

$W_{\text{F}_{\text{gme}}} = F_{\text{gme}} \cdot \Delta x \cdot \cos \alpha = 5886 \cdot 15 \cdot \cos 0^\circ = 88290 \text{ J}$
 $\alpha = 0^\circ$ travail moteur à 100%

T16.

Descente



$$m = 25 \text{ kg}$$

$$F_p = m \cdot g = 25 \cdot 9,81 = 245,25 \text{ N}$$

$$W_{F_p} = F_p \cdot \Delta x \cdot \cos \alpha$$

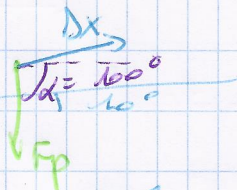
$$= 245,25 \cdot 5 \cdot \cos 70$$

$$= 4194 \text{ J}$$

travail de la force pesante =
énergie cinétique donnée
à la luge + enfant

TRAVAIL MOTEUR

Montée



Dans la montée

W_{F_p} = travail résistant

F_p retire de l'énergie cinétique
→ arrêt

$$W_{F_p} \text{ montée} = - W_{F_p} \text{ descente} = - 4194 \text{ J}$$

$$? \Delta x = \frac{W_{F_p}}{F_p \cdot \cos \alpha} = \frac{-4194}{245,25 \cdot \cos 100}$$

$$= 98,5 \text{ m}$$