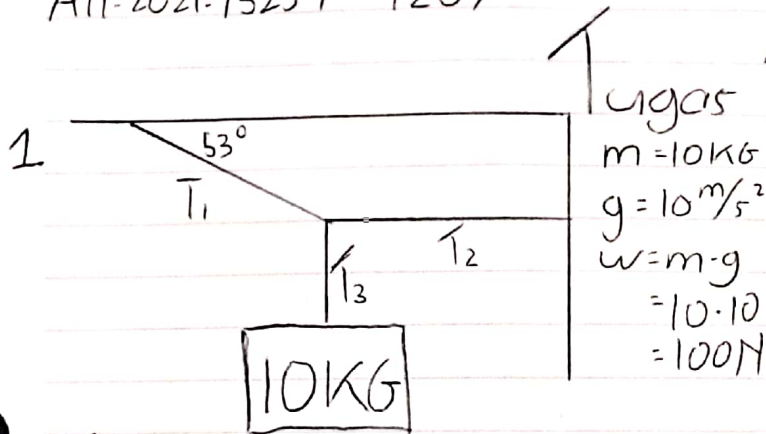


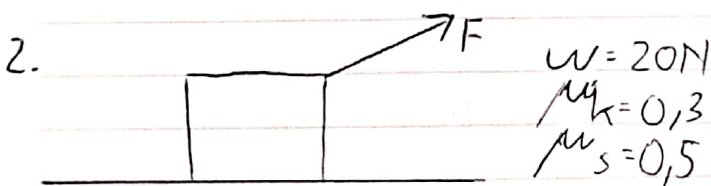
Yohanes Dimas Pratama
A11-2021-13254-4207



gas
 $m = 10 \text{ kg}$
 $g = 10 \text{ m/s}^2$
 $w = m \cdot g$
 $= 10 \cdot 10$
 $= 100 \text{ N}$

- T_3
 $T_3 = w$
 $= 100 \text{ N}$
 - T_1 dan T_2
 $\sum F_y = 0$
 $-T_3 + T_1 \sin 53^\circ = 0$
 $-100 + T_1 \cdot \frac{4}{5} = 0$
 $\frac{4}{5} T_1 = 100$
 $T_1 = 100 \cdot \frac{5}{4}$
 $= 125 \text{ N}$

- $\sum F_x = 0$
 $T_2 - T_1 \cos 53^\circ = 0$
 $T_2 - 125 \cdot \frac{3}{5} = 0$
 $T_2 = 75 \text{ N}$



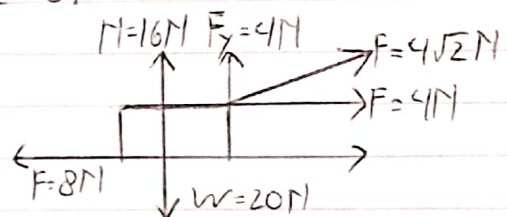
A. $m = \frac{w}{g}$
 $= \frac{20}{10} = 2 \text{ kg}$
 $F_s = \mu_s \cdot N$
 $= 0.5 \cdot 16$
 $= 8 \text{ N}$

$F_x = F \sin 45^\circ$
 $= 4\sqrt{2} \cdot \frac{1}{2}\sqrt{2}$
 $= 4 \text{ N}$
 $F_y = F \cos 45^\circ$
 $= 4\sqrt{2} \cdot \frac{1}{2}\sqrt{2}$
 $= 4 \text{ N}$

$\sum F_y = 0$
 $N + 4\sqrt{2} \sin 45^\circ - 20 = 0$
 $N + 4\sqrt{2} \cdot \frac{1}{2}\sqrt{2} = 20$
 $N + 4 = 20$
 $N = 16 \text{ N}$

Karena $F < F_s$ maka benda dalam keadaan diam (mungkin berlaku hukum newton I)

$F - f = 0$
 $F = 8 \text{ N}$



B. $\sum F_y = 0$
 $N + F \sin \theta - w = 0$
 $N = w - F \sin \theta$
 $N = 20 - 4\sqrt{2} \cdot \frac{1}{2}$
 $N = 20 - 2\sqrt{2}$
 $N = 17.17 \text{ N}$

$F_s = \mu_s \cdot N$
 $= 0.5 \cdot 17.17$
 $= 8.6 \text{ N}$

Karena $F < F_s$ maka benda diam. $F - f = 0$
 $f = 8.6 \text{ N}$

