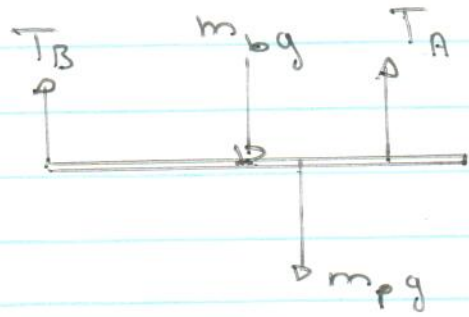


## Exercise 2 B



②

$$\text{⊕} \sum M_A = 0$$

$$\therefore m_b g(6) + m_p g(7) - T_A 10 = 0$$

$$\therefore 2000(10)6 + 80(10)7 - T_A 10 = 0$$

$$\therefore T_A = 12560 \text{ N } \uparrow$$

$$\text{⊕} \sum F_y = 0$$

$$\therefore T_B - 2000(10) - 80(10) + 12560 = 0$$

$$\therefore T_B = 8240 \text{ N } \uparrow$$

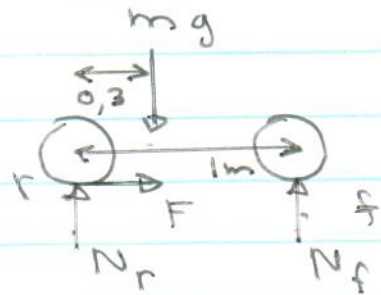
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⑦

$$\text{⊕} \sum M_f = 0$$

$$-N_r(1) + 90(10)(0,7) = 0$$

$$\therefore N_r = 630 \text{ N } \uparrow$$



$$\text{(b)} F_{\text{max}} = \mu N_r = 0,45(630) = 283,5 \text{ N } \rightarrow$$

$$\text{(c)} \text{⊕} \sum F_x = m a$$

$$\therefore 283,5 = 90 a$$

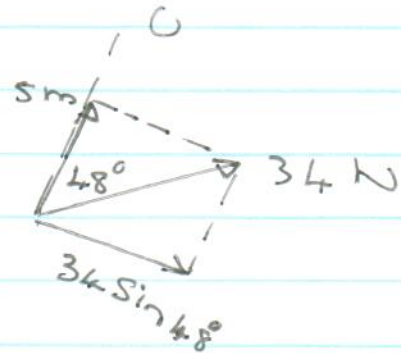
$$\therefore a = 3,15 \text{ m s}^{-2}$$

## Exercise 2C

(2d) Ⓢ)  $\sum M_o = 70(5) + 60(5) + 50(5) = 900 \text{ Nm}$

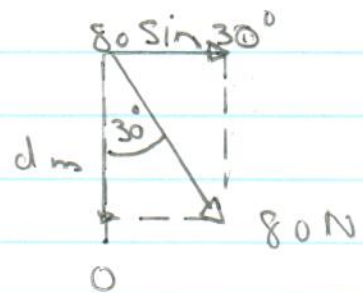
(3d) Ⓢ)  $\sum M_o = (34 \sin 48^\circ) 5$

$\therefore \sum M_o = 126 \text{ Nm}$



(4b) Ⓢ)  $4 \cdot 80 = 80 \sin 30^\circ \cdot d$

$\therefore d = 12 \text{ m}$

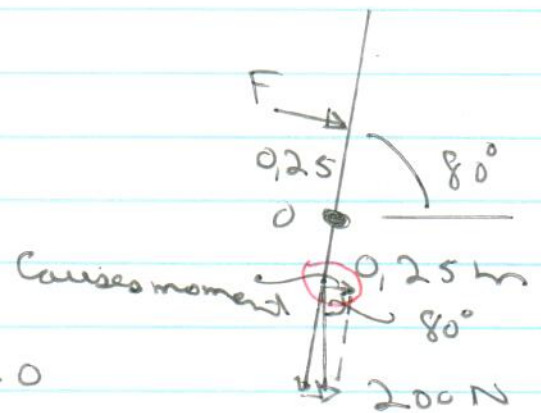


14) "Light rod" means mass of rod = 0

Ⓢ)  $\sum M_o = 0$

$200 \cos 80^\circ (0,25) - F(0,25) = 0$

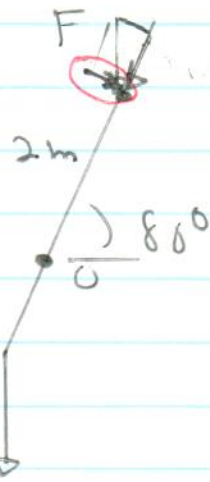
$\therefore F = 34,7 \text{ N}$



(a) Ⓢ)  $\sum M_o = 0$

$F \cos 80^\circ \cdot 2 - 200 \cos 80^\circ \cdot 0,25 = 0$

$\therefore F = 25 \text{ N}$



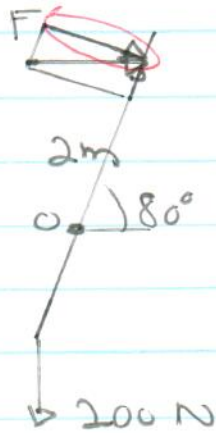
P.T.O.

200 N

(14) (b)  $\sum M_C = 0$

$$F \sin 80^\circ \cdot 2 - 200 \cos 80^\circ \cdot 0,25 = 0$$

$$\therefore F = 4,41 \text{ N}$$



(c)  $\sum M_C = 0$

$$F \cdot 2 - 200 \cos 80^\circ \cdot 0,25 = 0$$

$$\therefore F = 4,34 \text{ N}$$

