

HW05a

Friday, December 13, 2024 8:48 AM

1. $N = M(a_y + g)$ (y-axis up)

a) $N = Mg$ b) $N = Mg$

c) $N = M(a + g)$ d) $N = M(a - g)$

2.

$$T_2 = \frac{Mg}{\cos\beta \tan\alpha + \sin\beta}$$

$$T_1 = \frac{Mg}{\cos\beta \tan\alpha + \sin\beta} \left(\frac{\cos\beta}{\cos\alpha} \right)$$

3. $\Theta = \arctan \frac{a}{g} = 11.5^\circ$

4. $a_x = \frac{T - P \sin\Theta}{M}$

$a_x = 0$ for $T = P \sin\Theta$

$$N = Mg - P \cos\Theta$$