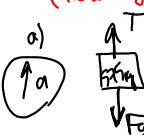


What would the tension in a cable be that's lifting an elevator (total mass 575 kg) moving: a) upwards at 5.0 m/s<sup>2</sup> b) downwards at 5.0 m/s<sup>2</sup>

c) downwards at 5.0 m/s<sup>2</sup> *Sp up (leaves)* *Sp up (lighter)*

Con. Sp. *(No same Fg)*

a) 

$$F_n = up - dn$$

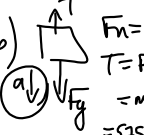
$$F_n = T - F_g$$

$$T = F_n + F_g$$

$$= ma + mg$$

$$= 575(5.0 + 9.81)$$

$$= 8515.75N$$
*Apparent mass of object is 869.07 kg*  
*App. weight*

b) 

$$F_n = F_g - T$$

$$T = F_g - F_n$$

$$= mg - ma$$

$$= 575(9.81 - 5)$$

$$= 2765.75N$$

c) *con. sp*  

$$a = 0$$

$$T = F_g =$$

$$= 575(9.81)$$

$$= 5640.75N$$

Oct 23-8:46 AM