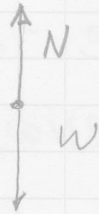


1. a)



$$m = 60\text{kg} + 8.60\text{kg}$$

$$m = 68.6\text{kg} = 9.8\text{ m/s}^2$$

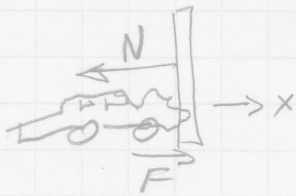
$$a = -g$$

$$F_N + F_g = F_N - mg = 0$$

$$F_N = mg = (68.6\text{kg})(9.8\text{ m/s}^2)$$

$$F_N = 672\text{ N}$$

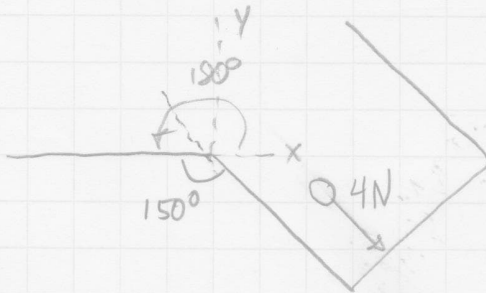
b)



Car exerts 4500 N on pole.

Pole exerts -4500 N on car towards back of car.

c)



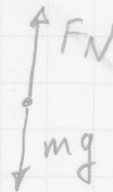
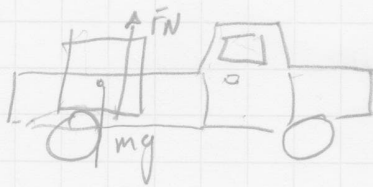
Ball on wall

$$\vec{F} = 4\text{N} @ 330^\circ \text{ (trig angle)}$$

Normal force is opposite to \vec{F}

$$\vec{F}_N = 4\text{N} @ 150^\circ \text{ trig angle}$$

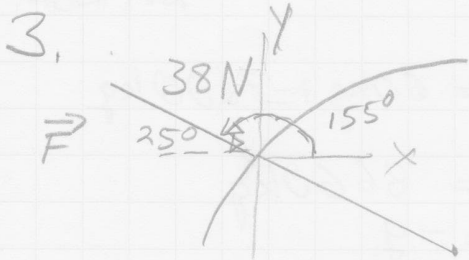
2.



$$F_N + F_g = F_N - mg = 0$$

$$F_N = mg = (1750\text{kg})(9.8\text{ m/s}^2)$$

$$F_N = 17,150\text{ N upwards}$$



$$\vec{F} = 38\text{N} @ -25^\circ \text{ trig angle}$$

$$\text{or } F = 38\text{N} @ 335^\circ$$

The normal force would be opposite direction
same magnitude.

$$\boxed{F_N = 38\text{N} @ 155^\circ} \text{ trig angle}$$