A cargo is to be transferred to the ship using cables that makes an angle of 12 degrees above the horizontal. If the maximum safe tension on the cable is 1,633.33N, what must be the maximum safe weight of the cargo so that the cable can support it?

Solution:
If the maximum safe tension on the cable is 1,633.33N and angle above the horizontal is 12 degrees, then horizontal component of the tension force is equal to:
$$T_y = T \cdot \sin 12° = 1633.33 \cdot \sin 12° = 340N$$
Newton's second law for the cargo:
$$y: m_{safe}g - T_y = 0$$
$$m_{safe}g = T_y$$
$$m_{safe} = \frac{T_y}{g} = \frac{340N}{9.8\frac{N}{kg}} = 34.7 \ kg$$

Answer: the maximum safe weight of the cargo so that the cable can support it is 34.7kg.