

Answer:

$$F = \frac{m * g}{\sin(\theta)}$$

$$\text{tg}(\theta) = \frac{0.22m}{20m} = 0.011$$

$$\theta = 0.6302$$

$$F = \frac{1kg * 9.8 \frac{m}{s^2}}{\sin(0.6302)} = 16.63N$$