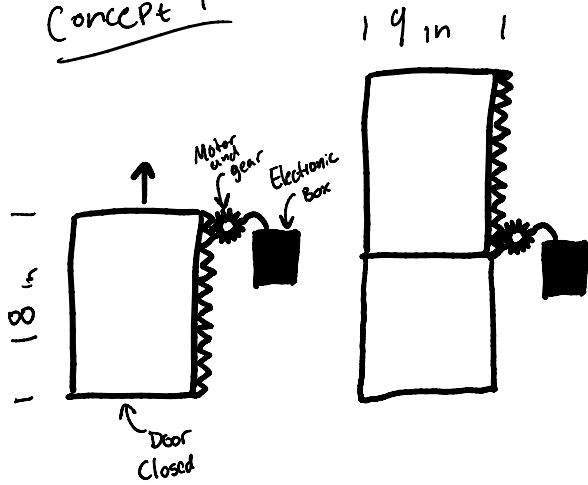
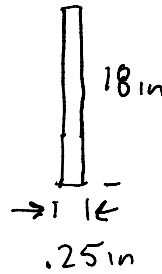


Concept 1



Electronic Box uses a timer so that the security door opens at the desired time



$$9 \text{ in} = 3.54331 \text{ cm}$$

$$18 \text{ in} = 7.08661 \text{ cm}$$

$$.25 \text{ in} = .0984252 \text{ cm}$$

$$\text{Mass} = \text{Density} \cdot \text{Volume}$$

$$1.0 \text{ g/cm}^3 \cdot 3.54331 \text{ cm} \cdot 7.08661 \text{ cm} \cdot .0984252$$

$$= 2.464309409 \text{ g}$$

$$F = 2.464309409 \times 10^{-3} \times 9.81 = .0241748753 \text{ N}$$