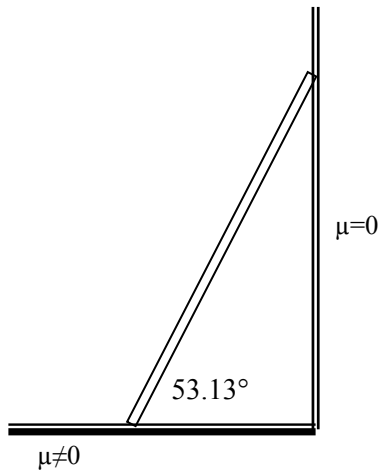


**W4.05****STATIC EQUILIBRIUM – Ladders**

$$\Sigma F = 0 \quad \& \quad \Sigma \tau = 0$$

Note: all walls are frictionless ( $\mu=0$ ) and all floors are rough ( $\mu \neq 0$ ), unless otherwise indicated.

[1] A 10 meter long ladder leans against the wall as shown. If the ladder weighs 100 N, what is  $\mu_{\min}$ ?



[2] A 10 meter long ladder leans against the wall as shown. If the ladder weighs 200 N and there is just enough frictional force to allow a 800 N person to climb to the top safely, what is  $\theta_{\min}$ ? Note:  $\mu_{\text{Floor}}=0.675$ .

