A mass is suspended from two strings.

Find the tension in each string for $\theta_1 = 30^\circ$, $\theta_2 = 60^\circ$, and $m = 1kg$.

For $\theta_2 > \theta_1$, is

(a) $T_1 < T_2$
(b) $T_1 = T_2$
(c) $T_1 > T_2$

A suitcase is pulled by its handle with constant force $F$ at an angle $\theta$ above horizontal. Find the normal force on the suitcase and its acceleration.

Acceleration on a frictionless incline.

The best choice of coordinates to solve for acceleration on an incline has $x$ pointing down the incline. Then $mg$ makes an angle $\theta$ with the $-y$ direction.