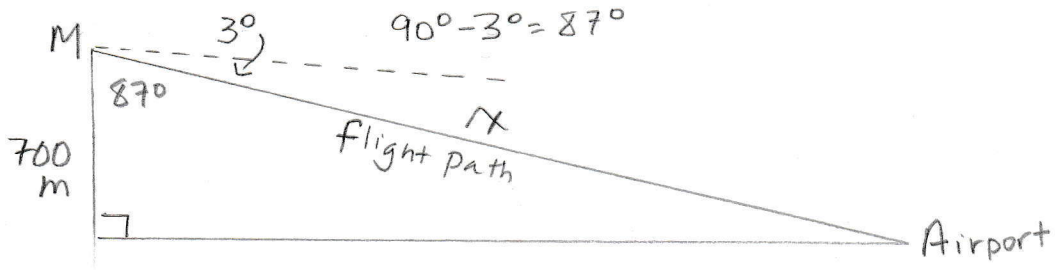
1. Marico has his own small plane. He is planning his approach to the local airport. He wants the angle of depression to be 3°. He is currently at an altitude of 700 m. What will be the distance he travels along the flight path as he descends to the airport?



$\cos \angle M = \frac{adj}{hyp}$

$\cos 87° = \frac{700}{x}$

$0.0523 = \frac{700}{x}$

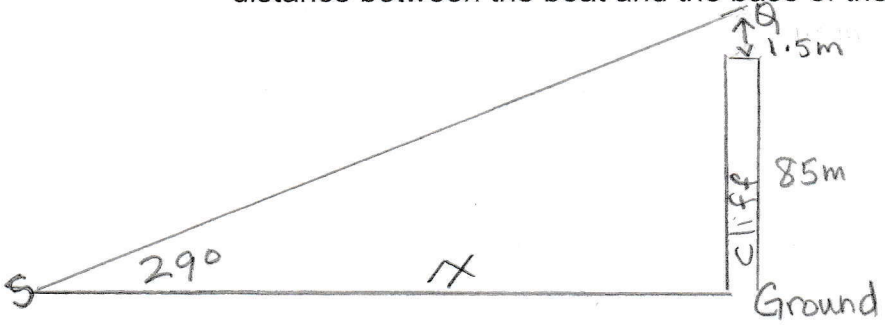
$0.0523x = 700$

$\frac{0.0523x}{0.0523} = \frac{700}{0.0523}$

$x = 13384\ m$

The flight path will be 13 384m.

2. Qaiyaan is 1.5 m tall and is standing at the top of a 85 m cliff at the edge of a lake. Her friend, Sarii is in a boat on the lake. From the boat, Sarii observes that the angle of elevation to the top of Qaiyaan's head is 29°deg. Determine the distance between the boat and the base of the cliff?



$\tan \angle S = \frac{opposite}{adjacent}$

$\tan 29° = \frac{85+1.5}{adjacent}$

$\tan 29° = \frac{86.5}{x}$

$0.5543 = \frac{86.5}{x}$

$0.5543x = 86.5$

$\frac{0.5543x}{0.5543} = \frac{86.5}{0.5543}$

$x = 156\ m$

The distance between is 156m.