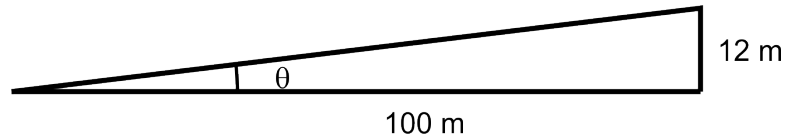


Answer on Question #45583, Physics, Mechanics | Kinematics | Dynamics

A hill that has a 12.0% grade is one that rises 12.0 m vertically for every 100.0 m of distance in the horizontal direction. At what angle is such hill inclined above the horizontal?

Solution:



We use the tangent ratio

$$\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}} = \frac{12}{100} = 0.12$$

Thus,

$$\theta = \tan^{-1}(0.12) = 6.843^\circ$$

Answer: $\theta = 6.843^\circ$