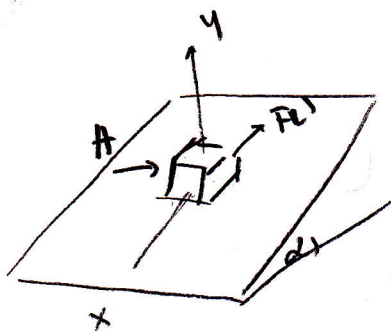




$$x) mg \sin \alpha + F_r = 0$$

$$z) H - F_n = 0$$

$$y) N = mg \cos \alpha$$

$$\uparrow \text{ } F_n \text{ } \downarrow$$

$$\begin{array}{l} x) mg \sin \alpha = F_r \\ z) H = F_n \end{array} \quad \left| \begin{array}{l} ()^2 \\ ()^2 + \end{array} \right. \quad F_n = \sqrt{F_r^2 + F_n^2}$$

$$(mg \sin \alpha)^2 + H^2 = F_n^2 \quad F_n = \mu \cdot N$$

$$(mg \sin \alpha)^2 + H^2 = (\mu \cdot mg \cos \alpha)^2$$

$$H = \sqrt{(\mu mg \cos \alpha)^2 - (mg \sin \alpha)^2}$$

$$H = \sqrt{(mg)^2 (\mu^2 \cos^2 \alpha - \sin^2 \alpha)}$$

$$H = mg \sqrt{\mu^2 \cos^2 \alpha - \sin^2 \alpha} \quad \mu = 2 \tan \alpha$$

$$H = mg \sqrt{4 \sin^2 \alpha - \sin^2 \alpha} = \sqrt{3} mg \sin \alpha$$