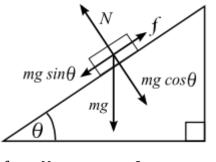Question:

A man slides down on a slide when it is inclined at 32o. What is the coefficient of friction between the man and the slide?

Solution:

$f = \mu N = \mu mg \cos\theta \,;$

$f = mg \sin\theta \,;$

$\mu mg \cos\theta = mg \sin\theta \Rightarrow \mu = \dfrac{\sin\theta}{\cos\theta} = \tan\theta = 0.625 \,;$

Answer: $\mu = 0.625.$