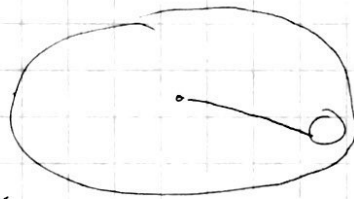# 20-P-FA-AF-010

E.M   Normal/Tangential Coordinates : Beginner

Q: The M kg block sits at the edge of a R m disk with
a string attached. What is the tension in the rope
if the velocity is found to be V. What is
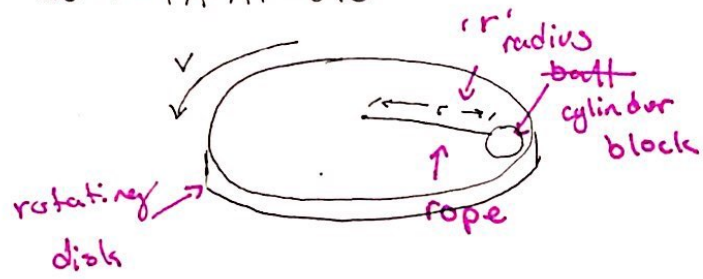the tangential acceleration if $\mu = U$?

A :

$\Sigma F_n = ma_n;$ $\qquad$ $T = \cancel{M}\, M\, \dfrac{V^2}{R}$

$\Sigma F_t = ma_t:$ $\qquad$ $U\, M \cdot g = M\, a_t$ $\quad \Rightarrow \quad$ $U g = a_t$

Scanned with CamScanner

20-P-FA-AF-010

'r' radius
~~bolt~~ cylinder block
velocity
rope
rotating disk
for labelling

20-P-FA-AF-010

for labelling

velocity

~~open~~

center point

'r' for radius

cylinder block

rope

rotating - disk

'angled' disk