Rigid Body Work Energy: Example Problem 1

A cable connected to a 50 kg mass B wraps around a 20 kg drum A. The system starts from rest when a 400 N-m couple is applied to the drum. After the mass B has lifted 10 m, determine the speed of B.
System starts from rest.

20 kg drum, $k_G = 0.15 \text{ m}$

$M = 400 \text{ N-m}$

$r = 0.2 \text{ m}$

B starts on ground.

50 kg

10 m