



A merry-go-round is loaded with students around the rim. A rope is wound around the rim of the merry-go-round to provide torque.

1. Provide a set of assumptions that will make the speed ( $\omega$ ) of the merry-go-round known after some calculation.
2. Determine the speed of the merry-go-round given a radius of 2.0m and a length of 50.ft of rope. Use any applicable assumptions from #1.
3. Defend your solution and assumptions.