Part 3:
Assume $I = .150\,A$ $M = .1\,kg$ $r = .1\,M$
Formula for Torque: $T = KI$ where K is the coeffecient of the Proportionality between Torque and Current and I is current flowing through the motor.
Another Formula for torque is: $T = d \cdot F$ where d is the distance to the center (radius) and F is the force. In this case a mass is hanging so the force applied is gravity $F_g = m \cdot g$ where g is $9.81\,M/S^2$
To Solve for K we must first find T:
$T = d \cdot M \cdot g = 0.1M \cdot 0.1kg \cdot 9.81\,M/S^2$
$T = 98.1$ Milli Newton-Meters

Then Substitute this Value along with Current to Solve for K

$K = T/I \qquad K = \frac{0.0981\ \text{Newton-Meters}}{0.150\ A}$

$K = 0.654\ NM/A$