10.) For your own body, compute the mass moment of inertia of the body segments: Forearm, Total Arm, Thigh, Foot, and Trunk in Table 4.1 with respect to their centers of mass.

Moment of inertia:

I: Moment of inertia (kg-m2) w: Weight of segment (kg)

m: Total mass (kg) cm: Center of mass (Scalar quantity)

k: Radius of gyration (m)

(Units are not provided, assuming metric)

1. Forearm:

I = 0.016 kg \* 0.430 \* 0.526m 2

I = 0.0019 kg-m2

1. Total Arm:

I = 0.050 kg \* 0.530 \* 0.645m 2

I = 0.011 kg-m2

1. Thigh:

I = 0.100 kg \* 0.433 \* 0.540m 2

I = 0.013 kg-m2

1. Foot:

I = 0.0145 kg \* 0.5 \* 0.690m 2

I = 0.005 kg-m2

1. Trunk:

I = 0.497 kg \* 0.5 \* 0.83m 2

I = 0.17 kg-m2