4) In order to adapt for a compound pendulum, we must use the length from the pivot point to the Center of Gravity instead of just the length from the mass to the pivot point. We must use the second order equation for the compound pendulum below:

A math equation on a white board

Description automatically generated

As a result, the values x dot 2 and x dot 1 will become twice their original value. X 2 and X dot 1 both equal angular velocity. See below for equations for X dot 1 and X dot 2:

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