

Name: _____

A mass M slides on an unusual table whose friction is bv^3 , where b is a constant and v is the velocity of the mass. First write Newton's equation of motion, being careful with signs. Next, solve Newton's equation for $x(t)$ assuming $x(0) = 0$ and $\dot{x}(0) = v_0$. How far does the mass slide before coming to a stop?