Question #14356

When throwing the object vertically, there are two forces, acting on it: the force of 500N, which is directed upwards and $F = mg$, directed downwards. Hence, the acceleration is $a = \frac{(F' - mg)}{m} = \frac{F'}{m} - g$, where $F' = 500\,N$. The vertical speed $v = v_0 - a\,t$, and it is equal to $(\frac{F'}{m} - g)t \approx 90\,t$ (there is no initial velocity). Using this model, there will be no maximum (the object will be going upward infinitely). But this is obviously wrong, because we didn't account on dissipation (friction) in out movement. In order to give more realistic solution, more information on this task is needed.