CCK Mechanics Problem: AstroBlaster (inspired by a toy of the same name)
2007-Jul-13

N balls, with masses $m_0, m_1, m_2, ...m_N$, move together along a line toward a (perpendicular) wall, at a constant velocity v, with m_0 at the head of the line. Assume that all collisions are perfectly elastic.

A. Develop recursion relations that specify $m_1, m_2, ...m_N$ so that, once all collisions are complete, m_N has all of the kinetic energy of the system.

B. Find the final speed of m_N in terms of v.