[mex267] Elastic collision on airtrack

Two blocks of masses $m_1 \geq m_2$ move with velocities $v_0$ and $-v_0$, respectively, toward each other on a frictionless airtrack and undergo an elastic collision.

(a) Find the velocity $v_1$ of the more massive block after the collision in units of $v_0$ and as a function of $m_1$ and $m_2$.

(b) Check your result for the special case $m_1 = m_2$, namely $v_1 = \ldots$

(c) For what ratio $m_1/m_2$ does the more massive block stay at rest after the collision?

![Diagram of collision](image)

Solution: