

$$\begin{aligned}
m_{1v}v_{1v} + m_{2v}v_{2v} &= (m_1v_1 + m_2v_2)_{na} \\
(\tfrac{1}{2}m_1v_1^2 + \tfrac{1}{2}m_2v_2^2)_{voor} &= (\tfrac{1}{2}m_1v_1^2 + \tfrac{1}{2}m_2v_2^2)_{na} \\
(v_1)_{na} &= \frac{(1v_{1, voorbotsing} + m_2v_{2, voorbotsing} - m_2v_{2, nabotsing})}{m_1}
\end{aligned}
\tag{1}$$