

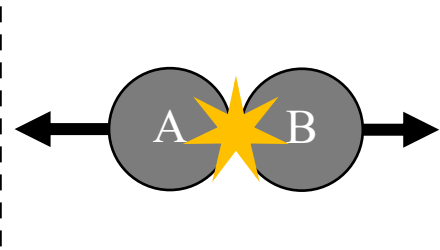
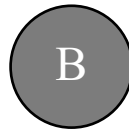
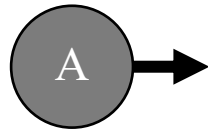
Sentralt elastisk stød

To kuler med ulik masse

$$m_a = 20 \text{ g}$$

$$m_b = 40 \text{ g}$$

$$v_0 = 5.67 \text{ m/s}$$



$$\frac{1}{2}mv_0^2 = \frac{1}{2}mv_a^2 + \frac{1}{2}2mv_b^2$$

$$v_0^2 = v_a^2 + 2v_b^2$$

$$\boxed{v_a^2 = v_0^2 - 2v_b^2}$$

$$mv_0 = mv_a + 2mv_b$$

$$v_0 = v_a + 2v_b$$

$$\boxed{v_a = v_0 - 2v_b}$$

$$v_0^2 - 2v_b^2 = (v_0 - 2v_b)^2$$

$$v_0^2 - 2v_b^2 = v_0^2 - 4v_0v_b + 4v_b^2$$

$$-2v_b^2 - 4v_b^2 = -4v_0v_b$$

$$6v_b^2 - 4v_0v_b = 0$$

$$2v_b(3v_b - 2v_0) = 0$$

$$\boxed{2v_b = 0 \vee 3v_b - 2v_0 = 0}$$

$$3v_b - 2v_0 = 0 \Rightarrow 3v_b = 2v_0$$

$$\underline{\underline{v_b = \frac{2}{3}v_0}}$$

$$v_a = v_0 - 2v_b$$

$$v_a = v_0 - 2\left(\frac{2}{3}v_0\right)$$

$$\underline{\underline{v_a = -\frac{1}{3}v_0}}$$