



Dane:
 v_A, v_B
 zadani
 v_0, ω, x

- 1) $v_A = v_B = v_0$ - ruch postepny
- 2) $v_A = -v_B, v_0 = 0$ - ruch obrotowy
 C - chwilowy srodek oporu
- 3) $v_A > v_B$

$$v_A = 3 \quad v_B = 2$$

$$\begin{cases} v_B = \omega \cdot x \rightarrow \omega = \frac{v_B}{x} \\ v_0 = \omega \cdot (x + r) \\ v_A = \omega \cdot (x + 2r) \rightarrow \frac{v_A}{x + 2r} \end{cases}$$

$$x = 2 \quad \omega = 0.7$$

$$v_A = \frac{v_B}{x} (x + 2r)$$

$$\omega = v_B \cdot \frac{\frac{v_A}{v_B} - 1}{2r}$$

$$v_A = v_B + \frac{v_B \cdot 2r}{x}$$

$$v_0 = \omega \cdot (x + r)$$

$$\frac{v_A}{v_B} = 1 + \frac{2r}{x}$$

$$v_0 = \frac{v_B \cdot \frac{v_A}{v_B} - 1}{2r} \left(\frac{2r}{\frac{v_A}{v_B} - 1} + r \right)$$

$$\frac{v_A}{v_B} - 1 = \frac{2r}{x}$$

$$v_0 = v_B + v_B \cdot \left(\frac{v_A}{v_B} - 1 \right) \cdot \frac{1}{2}$$

$$x = \frac{2r}{\frac{v_A}{v_B} - 1}$$

$$v_0 = v_B \left(1 + \left(\frac{v_A}{v_B} - 1 \right) \cdot \frac{1}{2} \right)$$

$$v_0 = v_B (1 + r)$$

$$v_0 = v_B \left(1 + \left(\frac{v_A}{v_B} - 1 \right) \cdot \frac{1}{2} \right)$$