

$$v_1 = v + v_R$$

$$v_2 = v - v_R$$

$$v_1 \cdot t_1 = s$$

$$v_2 \cdot t_2 = s$$

$$(v + v_R) \cdot t_1 = s$$

$$(v - v_R) \cdot t_2 = s$$

$$t = t_1 + t_2 \quad \longrightarrow \quad t_1 = t - t_2$$

$$(v + v_R) \cdot (t - t_2) = s$$

$$(v - v_R) \cdot t_2 = s \quad \longrightarrow \quad t_2 = \frac{s}{v - v_R}$$

$$(v + v_R) \cdot \left(t - \frac{s}{v - v_R} \right) = s$$

$$(v + 4) \cdot \left(5 - \frac{48}{v - 4} \right) = s$$

$$(v + 4) \cdot \frac{5 \cdot (v - 4) - 48}{v - 4} = 48$$

$$(v + 4) \cdot \frac{5v - 68}{v - 4} = 48 \quad / \cdot (v + 4)$$

$$(v + 4) \cdot (5v - 68) = 48v - 192$$

$$5v^2 - 48v - 272 = 48v - 192 \quad / - (48v - 192)$$

$$5v^2 - 96v - 80 = 0$$



↓ t₁

↑ t₂

s = 48 km

t = t₁ + t₂ = 5 h

$$D = 9216 - 4 \cdot 5 \cdot (-80) = 10816$$

$$x_{1,2} = \frac{96 \pm \sqrt{10816}}{10} = \begin{cases} 20 \text{ km} \cdot \text{h}^{-1} \\ -\frac{4}{5} \end{cases}$$

Druhý koreň logicky vylúčime a ostal nám len prvý.