



① $V_p = \frac{x_f - \cancel{x_{ip}}}{t}$

$tV_p = \frac{x_f}{t}$

$tV_p = x_f$

② $V_A = \frac{x_f - x_{iA}}{t}$

$tV_A = \frac{x_f - x_{iA}}{t}$

$tV_A = x_f - x_{iA}$
 $tV_A + x_{iA} = x_f$

① solve each equation for x_f

② set equations equal to each other.

$tV_p = tV_A + x_{iA}$

$tV_p - tV_A = x_{iA}$

③ Get t's to the same side

$t(V_p - V_A) = x_{iA}$

④ factor out t's

$t = \frac{x_{iA}}{(V_p - V_A)}$

⑤ divide by $(V_p - V_A)$

$t = \frac{15}{(1.8 - (-1.1\text{ m/s}))}$

⑥ Plug in numbers

$t = 5.19\text{ s}$

Plug into any equation $\left. \begin{array}{l} tV_p = x_f \\ tV_A + x_{iA} = x_f \end{array} \right\} \Rightarrow x_f = 9.3\text{ m}$
 *should get same final answer