

$\leftarrow W \quad \rightarrow E$

$\leftarrow X$
 $V_{adv, tot} = 1.34 \text{ m/s}$

$$V_{av} = \frac{\Delta X}{\Delta t}$$

$$1.34 = \frac{\Delta X_{net+w}}{\Delta t_{tot}} = \frac{6440 - \Delta X_e}{\Delta t_w + \Delta t_e}$$

$\leftarrow 6.44 \text{ km} = \Delta X_w$
 $V_{adv} = 2.68 \text{ m/s}$

① $\frac{\Delta t_w}{2.68} = \frac{6440 \text{ m}}{2.68} \cdot \frac{\Delta X_w}{2.68}$

② $\frac{\Delta X_e = ?}{V_{adv} = .447 \text{ m/s}}$

$$.447 = \frac{\Delta X_e}{\Delta t_e}$$

$$1.34 = \frac{6440 - \Delta X_e}{\Delta t_w + \Delta t_e}$$

$$1.34 = \frac{6440 - \Delta X_e}{2.02 + 2.24 \frac{\Delta X_e}{.447}}$$

$$\Delta t_w = \frac{6440}{2.68}$$

$$\Delta t_e = \frac{\Delta X_e}{.447}$$

$$1.34 = \frac{6440 - \Delta X_e}{\frac{6440}{2.68} + \frac{\Delta X_e}{.447}}$$

$$1.34 = \frac{6440 - \Delta X_e}{\frac{1073 + \Delta X_e}{.447}}$$

$$\left(\frac{1073 + \Delta X_e}{.447} \right) 1.34 = 6440 - \Delta X_e$$

$$\frac{1437 + 1.34 \Delta X_e}{.447} = 6440 - \Delta X_e$$

$$3214.8 + 2.99 \Delta X_e = 6440 - \Delta X_e$$

$$-3214.8 + \Delta X_e - 3214.8 + \Delta X_e$$

$$\frac{4 \Delta X_e}{4} = \frac{3225.2}{4}$$

$$\Delta X_e = 806.3 \text{ m}$$