

$$1) v = 5.7 \text{ km/y} \quad \Delta x = vt$$

$$\Delta x = 100 \text{ km} \quad 100 = 5.7t$$

$$t = ? \quad t = \frac{100}{5.7}$$

$$t = 17.54 \text{ years}$$

$$4) \Delta x_1 = 100 \text{ m} \quad \textcircled{1} \quad A) \Delta x_1 = v_1 t_1 \quad \textcircled{2} \quad \Delta x_3 = v_3 t_3$$

$$v_1 = 25 \text{ m/s} \quad 100 = 25 t_1 \quad 1700 = 10 t_3$$

$$t_2 = 1.5 \text{ min} = 90 \text{ sec.} \quad t_1 = 4 \text{ s} \quad t_3 = 170 \text{ s}$$

$$\Delta x_3 = 1700 \text{ m} \quad \textcircled{3}$$

$$v_3 = 10 \text{ m/s} \quad t_1 + t_2 + t_3 = t_{\text{total}} = 4 + 90 + 170 = 264 \text{ s}$$

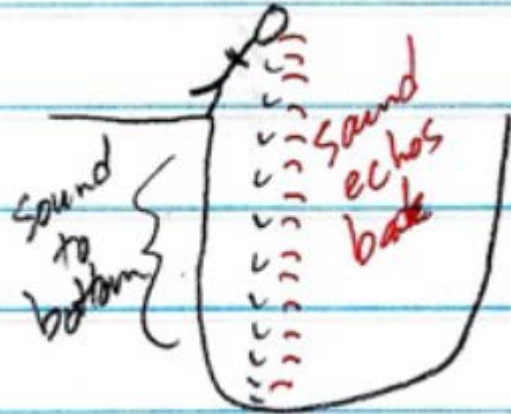
$$\textcircled{4} 8 \text{ min} = 480 \text{ s}$$

$\textcircled{5}$  Yes, she makes it

$$6) t_{\text{total}} = 5.2 \text{ s}$$

$$\Delta x = ?$$

$$v_{\text{sound}} = 340 \text{ m/s}$$



$$10) \Delta x = vt \text{ or } v = \frac{\Delta x}{t}$$

$$A) \frac{10-0}{2} = \boxed{5 \text{ m/s}}$$

$$B) \frac{5-0}{4} = \boxed{1.25 \text{ m/s}}$$

$$C) \frac{5-10}{2} = \boxed{-2.5 \text{ m/s}}$$