

MP/387

$$T = 21^{\circ}\text{C}$$

$$v = ??$$

$$v = 331 \frac{\text{m}}{\text{s}} + 0.59 \frac{\text{m/s}}{^{\circ}\text{C}} T$$

$$v = 331 \frac{\text{m}}{\text{s}} + 0.59 \frac{\text{m/s}}{^{\circ}\text{C}} (21^{\circ}\text{C})$$

$$v = 331 \frac{\text{m}}{\text{s}} + 12.39 \frac{\text{m}}{\text{s}}$$

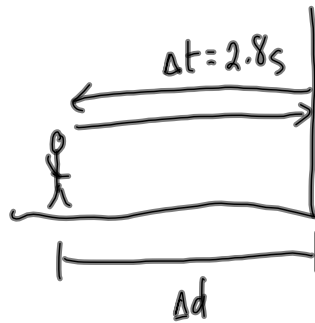
$$v = 343 \text{ m/s}$$

MP/388

$$T = 4.0^{\circ}\text{C}$$

$$\Delta t = 2.8 \text{ s (echo)}$$

$$\Delta d = ? \text{ (canyon)}$$



$$v = 331 \frac{\text{m}}{\text{s}} + 0.59 \frac{\text{m/s}}{^{\circ}\text{C}} (4.0^{\circ}\text{C})$$

$$v = 331 \frac{\text{m}}{\text{s}} + 2.36 \frac{\text{m}}{\text{s}}$$

$$v = 333.36 \text{ m/s}$$

$$\Delta t = 2.8 \text{ s (echo)}$$

$$\Delta t = 1.4 \text{ s (one-way)}$$

$$v = \frac{\Delta d}{\Delta t}$$

$$\Delta d = v \Delta t$$

$$\Delta d = (333.36 \text{ m/s})(1.4 \text{ s})$$

$$\Delta d = 466.704 \text{ m}$$

$$(4.7 \times 10^2 \text{ m})$$