

CP - Sept 29

5. Do on your own

6. $\begin{array}{l} \overline{V_0} \\ a \\ d \end{array} \left| \begin{array}{l} V_f \\ \\ \\ \end{array} \right. \quad V_f^2 = V_0^2 + 2ad$

$$=$$

$$V_f^2 = \left(\frac{25\text{m}}{\text{s}}\right)^2 + 2\left(\frac{8\text{m}}{\text{s}^2}\right)\left(\frac{300\text{m}}{1}\right)$$

$$= \frac{625\text{m}^2}{\text{s}^2} + 4800\frac{\text{m}^2}{\text{s}^2}$$

$$V_f^2 = 5425\frac{\text{m}^2}{\text{s}^2}$$

$$\boxed{73.65\frac{\text{m}}{\text{s}}}$$

Adam Baum jumps from a plane and waits 8 sec before opening his chute. How far did he fall in that time?

$\begin{array}{l} \overline{t} \\ \overline{V_0} \\ a \end{array} \left| \begin{array}{l} d \\ \\ \\ \end{array} \right.$

$$d = \cancel{V_0 t} + \frac{1}{2}at^2$$

$$= \frac{1}{2}\left(\frac{-9.8\text{m}}{\text{s}^2}\right)(8\text{s})^2 \quad 8\text{s} \cdot 8\text{s}$$

$$= \frac{1}{2}\left(\frac{-9.8\text{m}}{\text{s}^2}\right)\left(\frac{64\text{s}^2}{1}\right)$$

$$= -313.6\text{m}$$