1)
$$\alpha = \beta t^2, X_0 = 0$$

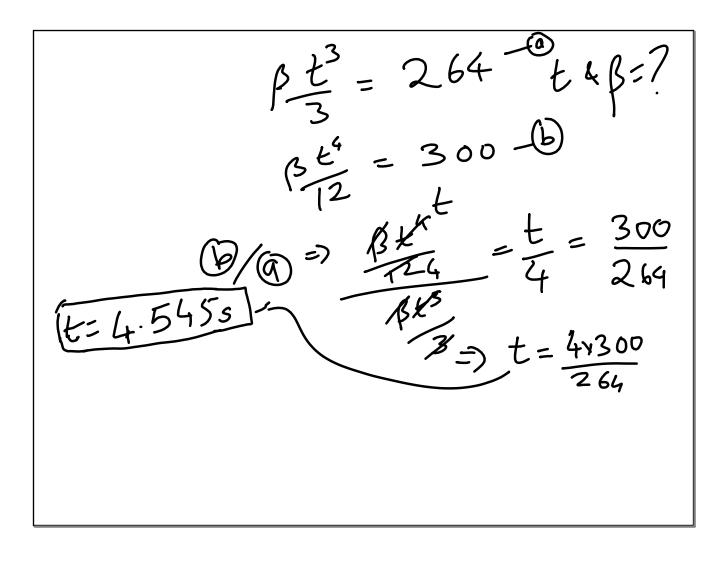
 $V = 180 \text{ mph},$
 $d = 300 \text{ ft}$
 $\beta = ?$

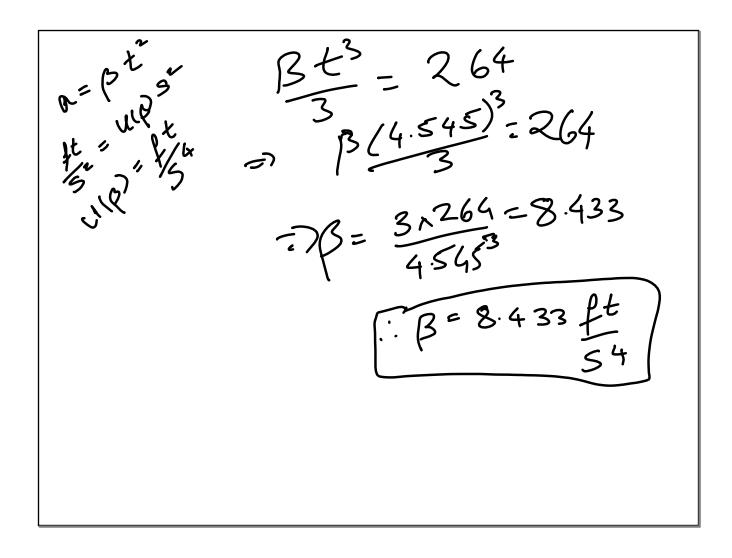
$$\begin{array}{c}
\Omega = \beta t^{2}, \Rightarrow \frac{dV}{dt} = \beta t^{2} \\
\int_{0}^{V} dV = \int_{0}^{t} \delta t^{2} dt \\
V = \beta t^{3} = 2.64 \quad -0 \\
V = \beta t^{3} + C
\end{array}$$

$$V = \begin{pmatrix} s + t^3 \\ 3 \end{pmatrix} = \int \frac{s}{dt} = \frac{pt^3}{3}$$

$$\int \frac{ds}{ds} = \int \frac{pt^3}{3} \frac{dt}{dt}$$

$$= \int S = \frac{pt^4}{12} = 300$$





 $\chi \quad \alpha = -gM_{0}(1+S) \text{ ot }, V_{0}, S_{0}=0$ $t^{2}X \quad \text{ot } 1. \ 0, S.d$ $\lambda = f(V_{0}, d, g, M_{0})$ Y J T F<1 $= -gM_{0}\left(1+\frac{S}{\lambda}\right)$

1+5 $v dv = -g M_0 (ds)$ $v dv = -g M_0 (ds)$ dS 0 9 0 $5+5^{2}$ Vo g Mo $= -g \mathcal{M}_{o} \left(d + \frac{d^{2}}{d^{2}} \right)$

February 2, 2017

 $\frac{+V_{0}^{2}}{2} = fgM_{0}\left(d + \frac{d^{2}}{2\lambda}\right)$ $V_{0}^{2} = ZgM_{0}d + g\frac{d^{2}}{2\lambda}$ $V_{0}^{2} - ZgM_{0}d = g\frac{d^{2}}{2\lambda}$ M.g. 29.M.d