

$$2/49 \quad a = k/x, \quad v dv = \frac{k}{x} dx$$

$$\int_0^v v dv = k \int_{x_1}^x \frac{dx}{x}; \quad \frac{v^2}{2} = k \ln \frac{x}{x_1}$$

$$\text{Thus } \frac{(600)^2}{2} = k \ln \frac{750}{7.5}, \quad k = \frac{0.36}{2(4.605)} = 0.0391 \text{ (km/s)}^2$$

$$\text{at } x = 375 \text{ mm, } a = \frac{0.0391}{375(10^{-6})} = \underline{104.2 \text{ km/s}^2}$$