PROB. 11-134

FIND d FOR $v = 72 \frac{km}{H}$ AND $a_n = 3.2 \frac{m}{s^2}$

FIND v FOR $d = 180^m$ AND $a_n = 0.6^g$

$d = 2s$, $s = \frac{d}{2}$

$$a_n = \frac{v^2}{s} = \frac{2v^2}{d}$$

$$d = \frac{2v^2}{a_n} = \frac{2\left(72 \frac{km}{H}\right)^2}{\left(3.2 \frac{m}{s^2}\right)} \cdot \left(\frac{1000\,m}{km}\right)^2 \left(\frac{H}{3600\,s}\right)^2$$

$$\boxed{d = 250^m}$$

$$v = \sqrt{\frac{d\,a_n}{2}} = \sqrt{0.5(180^m)(0.6)(9.81 \frac{m}{s^2})}$$

$$v = \left(23.02 \frac{m}{s}\right)\left(\frac{km}{1000\,m}\right)\left(\frac{3600\,s}{HR}\right) = \boxed{82.86 \frac{km}{H}}$$