$$60\overline{)88.}\ \begin{matrix}1.\\ 60\\ \hline 280\end{matrix} \qquad 1\ mph = 1.466$$

$$D_{rag} = C_D\ A\ \rho$$

$$\& \quad \rho = \frac{\rho_\infty V^2}{2}$$

$$\rho_\infty = 2.4 \times 10^{-3}\ slug/ft^3$$

$$V = 400\ MPH \cdot 1.466\ ft/sec/MPH = 5.864 \times 10^2\ ft/sec$$

$$C_D = 1.28$$

$$A = 3$$

$$Drag = \frac{C_D \cdot A \cdot \rho \cdot V^2}{2}$$

$$= \frac{1.28 \cdot 3\,ft^2 \cdot 2.4 \times 10^{-3}\ slug/ft^3 \cdot (5.86 \cdot 10^2\ ft/sec)^2}{2}$$

$w = mg$
$= slug \cdot ft/sec^2$

$$= \frac{3.84 \cdot 1.2 \cdot 34.3 \times 10^{-3} \times 10^4\ slug/ft \cdot ft/sec^2}{2}$$

$$= 1540\ \#$$

$$Res = \frac{F(\#)}{Vel\left(\frac{ft}{sec}\right)} = \frac{1540\ \#}{5.86 \cdot 10^2} = 2.628$$

$$Res = Force / Vel$$

$$= \frac{C_D A \rho V^2}{2V}$$

$$= \frac{C_D A \rho V}{2}$$

Example of Fl. Plate at $\approx 1'/sec.$

$$Res = \frac{1.28 \cdot 3 \cdot \cancel{2}^{1.2} A \times 10^{-3} \cdot 1}{\cancel{2}}$$

$$= 1.28 \times 3.6 \times 10^{-3} \ \#/\cancel{ft}/sec$$

$$= 4.6 \times 10^{-3} \ \#/ft/sec$$

$$= 4.6 \times 10^{-3} \#/\cancel{ft}/sec \cdot \frac{1}{12} \cancel{ft}/in$$

$$= \approx .4 \times 10^{-3} \#/in/sec$$