$$
\begin{aligned}
Area\ I &= \int_0^{116} (0.04011x^2 + 1.6145x)\,dx \\
&= \left(0.04011 \cdot \frac{x^3}{3} + 1.6145 \cdot \frac{x^2}{2}\right) |_0^{116} \\
&= \left(0.04011 \cdot \frac{116^3}{3} + 1.6145 \cdot \frac{116^2}{2}\right) - \left(0.04011 \cdot \frac{0^3}{3} + 1.6145 \cdot \frac{0^2}{2}\right) \\
&= 31,731.53552
\end{aligned}
$$