8.2 Calculate \( c, \gamma, \xi \) of wing

\[
\bar{c} = \frac{2c}{3} \frac{1+\lambda+\lambda^2}{1+\lambda} = \frac{2(9.0)}{3} \frac{1+1.5+1.5^2}{1+1.5} = 7.00 \text{ ft}
\]

\[
\gamma = \frac{b}{6} \frac{1+2\lambda}{1+\lambda} = \frac{34.4}{6} \frac{1+2(1.5)}{1+1.5} = 7.64 \text{ ft}
\]

\[
\xi = \rho \bar{c} + \gamma \tan \alpha_c = 0.258(7.00) + 7.64 \tan \frac{11.5}{57.3} = 4.07 \text{ ft}
\]

Distance from nose to leading edge of wing mac:

- Nose to wing apex = 17.0 ft  (App. A)
- Wing apex to ac (\( \xi \)) = 4.07 ft  (above)

- Nose to wing ac = 21.07

\[
\frac{ac}{\bar{c}} = 0.258 \quad ac = 0.258(7.00) = 1.81 \text{ ft}
\]

- Nose to le of wing ac = 21.07 - 1.81 = 19.3 ft