

$$\int \frac{1}{(1+\epsilon\cos\theta)^2} dy = \frac{\epsilon\sin\theta}{(\epsilon^2 - 1)(\epsilon\cos\theta + 1)} - \frac{2\tanh^{-1}\left(\frac{(\epsilon - 1)\tan(\frac{\theta}{2})}{\sqrt{\epsilon^2 - 1}}\right)}{(\epsilon^2 - 1)^{3/2}}$$

int  $\{1 \text{ over } (1+ \text{ \%epsilon cos\%theta})^2 \} \text{ dy} = \{ \text{ \%epsilon sin\%theta} \} \text{ over } \{ (\text{\%epsilon}^2 - 1)(\text{\%epsilon cos\%theta} + 1) \} - \{ \{2 \text{ tanh}^-1 \text{ left}(\{(\text{\%epsilon}-1) \text{ tan}(\text{\%theta over 2}) \} \text{ over } \{\text{sqrt}\{\text{\%epsilon}^2-1\} \} \text{ right}) \} \} \text{ over } \{ (\text{\%epsilon}^2 - 1)^{3/2} \}$