$|R_5(x)| \le \frac{M}{6!}|x|^6$, where $M \ge \max_{[-.8,.8]}\{|f^{(6)}(x)|\} = 3984.88...$

3984.881097

$\sinh(x)$ is odd & increasing

$\sinh(-.8) = -\sinh(.8)$ & so $\max_{x\in\{-.8,.8\}}\{|f^{(6)}(x)|\} = |f^{(6)}(.8)|$

$f^{(6)}(x) = 729\sinh(3x)$

$\sinh(x) = \frac{e^x - e^{-x}}{2}$ $\quad \sin(x) = \frac{e^{ix} - e^{-ix}}{2i}$ ← Forgot the "i"

$\cosh(x) = \frac{e^x + e^{-x}}{2}$ $\quad \cos(x) = \frac{e^{ix} + e^{-ix}}{2}$

$p(x) = a_n x^n + a_{n-1}x^{n-1} + \cdots + a_0$

$= (x-r_1)(a_n x^{n-1} + b_{n-2}x^{n-2} + b_{n-3}x^{n-3} + \cdots + b_0)$ ← Fundamental Theorem of Algebra APPLIED n TIMES

$= (x-r_2)(x-r_1)(a_n x^{n-2} + c_{n-3}x^{n-3} + \cdots + c_0)$

$\vdots$

$= a_n(x-r_n)(x-r_{n-1})\cdots(x-r_2)(x-r_1)$ ← split into linear factors

$(1)(4)(7)$ → add 3 $\rightsquigarrow$ $3n+c$

$3(4)+c = 7$

$c = -5$

$n = 4$

$(1)(4)(7)\cdots(3n-5)$