Trigonometric Identities

$$\begin{aligned}
\sin(A+B) &= \sin(A)\cos(B)+\cos(A)\sin(B)\\
\sin(A-B) &= \sin(A)\cos(B)-\cos(A)\sin(B)\\
\cos(A+B) &= \cos(A)\cos(B)-\sin(A)\sin(B)\\
\cos(A-B) &= \cos(A)\cos(B)+\sin(A)\sin(B)
\end{aligned}$$

$$\begin{aligned}
\sin(2A) &= 2\sin(A)\cos(A)\\
\cos(2A) &= \cos^2(A)-\sin^2(A)
\end{aligned}$$

Error Estimates

$$|E_T| \leq \frac{M(b-a)^3}{12n^2}, \qquad f''(x) \leq M \text{ for all } x \in [a,b]$$

$$|E_S| \leq \frac{M(b-a)^5}{180n^4}, \qquad f^{(4)}(x) \leq M \text{ for all } x \in [a,b]$$