

# Lab 9 - Taylor Polynomials

Given  $f(x)$ , + a center  $a$ ,

$$T_n(x) = f(a) + f'(a)(x-a) + \frac{f''(a)}{2!}(x-a)^2 + \frac{f^{(3)}(a)}{3!}(x-a)^3 + \dots + \frac{f^{(n)}(a)}{n!}(x-a)^n$$

$$|R_n(x)| \leq \frac{M}{(n+1)!} |x-a|^d$$

will maximize  
n+1 R:s

$$|f^{(n+1)}(x)| \leq M$$

How M  
is  
chosen

or  $|x-a| \leq d$