

Convergence of Taylor Series

$$\cos x \quad f(0) = 1$$

$$\sin x \quad f(0) = 0$$

$$\sin\left(\frac{\pi x}{2}\right) \quad f(0) = 0$$

$$f(x) = \frac{x^2}{2} - 1 + \cos x$$

$$f(x) = x^2 \sin x$$