3

a

$$f(x) = 1 - \cos x$$

POTENTIAL LOSS OF
SIG. FIGS NEAR

$$x = n\pi$$

EXPAND COSX AS TRUNCATED
TAYLOR SERIES

$$f(x) \approx 1 - \left[1 - \frac{x^2}{2!} + \frac{x^4}{4!} \right]$$

$$\boxed{f(x) \approx -\frac{x^2}{2!} + \frac{x^4}{4!}}$$