

7b

$$f''(x) = 2D_+ D_- f(x) + 2 \left[-\frac{f''(x)}{2!} - 2 \frac{f^{(4)}(x)}{4!} h^2 + \dots \right]$$

$$D_+ D_- f(x) = \frac{1}{2} f''(x) + \frac{1}{2} f''(x) + \frac{f^{(4)}(x)}{4! \cdot 2} h^2 + \dots$$

$$= f''(x) + O(h^2) \therefore$$

ASYMPTOTIC ERROR CONSTANT:

$$O(h^2) \approx C \cdot h$$

$$C = \frac{f^{(4)}(x)}{3!}$$