

# 2

$$dx = \left[ \frac{\epsilon f}{f'''} \right]^{\frac{1}{3}}$$

$$f''' = \frac{f''(x) - f''(x-dx)}{dx}$$

$$= \frac{\frac{f'(x+dx) - f'(x)}{dx} - \frac{f'(x) - f'(x-dx)}{dx}}{dx}$$

$$= \frac{f'(x+dx) + f'(x-dx) - 2f'(x)}{dx^2}$$

$$= \left[ \frac{f(x+2dx) - f(x+dx)}{dx} + \frac{f(x) - f(x-dx)}{dx} - 2 \left[ \frac{f(x+dx) - f(x)}{dx} \right] \right] \frac{1}{dx^2}$$

$$f''' = \frac{f(x+2dx) - 3f(x+dx) + 3f(x) - f(x-dx)}{dx^3}$$