

37.5 :

⇒ 1. True error (E_t) = Exact value - Approximate value

↓
True value

2. Relative true error (E_t) = $\frac{\text{True Error}}{\text{Exact value}}$

3. Absolute relative true error = $|E_t|$

⇒ 4. Equation to have the Approx value $f'(x) \approx \frac{f(x+h) - f(x)}{h}$ $\Delta x = h$

⇒ 5. Approximate Error (E_a) = Present ^{current} Approx - Previous Approx

6. Relative Approximate Error (E_a) = $\frac{\text{Approximate Error}}{\text{present Approximate}}$

7. Absolute relative Approximate Error $|E_a|$

आपसंगत Absolute relative error को on percentage convert for

⇒ 8. Forward Difference Approximation:

$$f'(x) \approx \frac{f(x+\Delta x) - f(x)}{\Delta x}$$

⇒ 9. Backward Difference Approximation:

$$f'(x) \approx \frac{f(x) - f(x-\Delta x)}{\Delta x}$$

⇒ 10. Central divided difference:

$$f'(x) \approx \frac{f(x+\Delta x) - f(x-\Delta x)}{2\Delta x}$$