

8-1

USE METHOD OF UNDETERMINED COEFFICIENTS

THE FACT THAT,

$$\int f(x) e^{-x} dx \approx C_1 f(x_1) + C_2 f(x_2) \quad (2 \text{ POINT GR - LR RULES})$$

IS EXACT FOR ALL POLY'S DEGREE ≤ 3 ...

→ DERIVE

$$C_1 = \frac{x_2}{4}$$

$$C_2 = \frac{x_1}{4}$$

NOTES:

METHOD OF UD C'S

$$f(x) = 1 \rightarrow \int_{-1}^1 1 dx = 2 = C_1 f(x_1) + C_2 f(x_2) + \dots$$

$$\int_{-1}^1 x dx = 0 = C_1 \left(\sqrt{\frac{3}{5}} \right) + C_2 \left(-\sqrt{\frac{3}{5}} \right) + C_3 \left(\frac{3}{5} \right) + \dots$$

ATTEMPT SOLUTION:

$$Z = C_1 + C_2 + C_3$$

→ ASSUME

$$x^3 = f(x)$$

POLY OF DEG 3

$\int f(x) e^{-x} dx$ } ... BACK TO NOTES:

