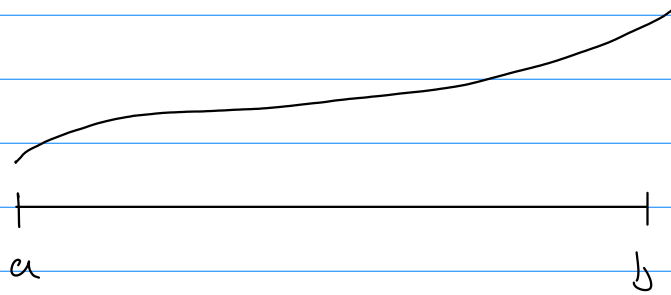


Newton-Cotes Methods

Integration approximation methods based on uniform step size (midpoint, trapezoid, etc) form a family called methods.



Two types based on approximating $\int_a^b f(x) dx$ when $h = b - a$

(1) Open Newton-Cotes Methods:

$$ex_1) \quad : \quad x_1 = \quad \quad \quad w_1 =$$

$$h = \quad \quad \quad : \quad x_1 = \quad \quad \quad w_1 =$$

$$e = \quad \quad \quad x_2 = \quad \quad \quad w_2 =$$

$$E = \quad \quad \quad x_3 = \quad \quad \quad w_3 =$$

$$F =$$

(2) Closed Newton-Cotes Methods:

$$ex_1) \quad : \quad x_1 = \quad \quad \quad w_1 =$$

$$x_2 = \quad \quad \quad w_2 =$$

$$x_1 = \quad \quad \quad w_1 =$$

$$x_2 = \quad \quad \quad w_2 =$$

$$x_3 = \quad \quad \quad w_3 =$$