Newton Geri Fark Formülü:

$$P_n(x) = f(x_n) + \sum_{k=1}^{n} (-1)^k \binom{-s}{k} \nabla^k f(x_n)$$

Fark Formülü:

$$f'(x_0) = \frac{f(x_0 + h) - f(x_0)}{h} - \frac{h}{2} f''(\xi)$$

Üç-Nokta Uç Nokta Formülü:

$$f'(x_0) = \frac{1}{2h}[-3f(x_0) + 4f(x_0 + h) - f(x_0 + 2h)] + \frac{h^2}{3} f'''(\xi)$$

Üç-Nokta Orta Nokta Formülü:

$$f'(x_0) = \frac{1}{2h}[f(x_0 + h) - f(x_0 - h)] - \frac{h^2}{6} f'''(\xi)$$

Beş-Nokta Orta Nokta Formülü:

$$f'(x_0) = \frac{1}{12h}[f(x_0 - 2h) - 8f(x_0 - h) + 8f(x_0 + h) - f(x_0 + 2h)] + \frac{h^4}{30} f^{(v)}(\xi)$$

Beş-Nokta Uç Nokta Formülü:

$$f'(x_0) = \frac{1}{12h}[-25f(x_0) + 48f(x_0 + h) - 36f(x_0 + 2h) + 16f(x_0 + 3h) - 3f(x_0 + 4h)] + \frac{h^4}{5} f^{(v)}(\xi)$$

İkinci Türev için Orta Nokta Formülü:

$$f''(x_0) = \frac{1}{h^2}[f(x_0 - h) - 2f(x_0) + f(x_0 + h)] - \frac{h^2}{12} f^{(iv)}(\xi)$$

Kapalı Newton-Cotes Formülleri.
$n = 1$: Yamuk Kuralı

$$\int_{x_0}^{x_1} f(x)\, dx = \frac{h}{2}[f(x_0) + f(x_1)] - \frac{h^2}{12} f''(\xi)$$

$n = 2$: Simpson Kuralı

$$\int_{x_0}^{x_2} f(x)\, dx = \frac{h}{3}[f(x_0) + 4f(x_1) + f(x_2)] - \frac{h^5}{60} f^{(iv)}(\xi)$$

$n = 3$: Simpson $\frac{3}{8}$ Kuralı

$$\int_{x_0}^{x_3} f(x)\, dx = \frac{3h}{8}[f(x_0) + 3f(x_1) + 3f(x_2) + f(x_3)] - \frac{3h^5}{80} f^{(iv)}(\xi)$$

$n = 4$:

$$\int_{x_0}^{x_4} f(x)\, dx = \frac{2h}{45}[7f(x_0) + 32f(x_1) + 12f(x_2) + 32f(x_3) + 7f(x_4)] - \frac{8h^7}{945} f^{(vi)}(\xi)$$

Açık Newton-Cotes Formülleri.
$n = 0$: Orta Nokta Kuralı

$$\int_{x_{-1}}^{x_1} f(x)\, dx = 2hf(x_0) + \frac{h^3}{3} f''(\xi)$$

$n = 1$:

$$\int_{x_{-1}}^{x_2} f(x)\, dx = \frac{3h}{2}[f(x_0) + f(x_1)] + \frac{3h^3}{4} f''(\xi)$$

$n = 2$:

$$\int_{x_{-1}}^{x_3} f(x)\, dx = \frac{4h}{3}[2f(x_0) - f(x_1) + 2f(x_2)] + \frac{14h^5}{45} f^{(iv)}(\xi)$$

$n = 3$:

$$\int_{x_{-1}}^{x_4} f(x)\, dx = \frac{5h}{24}[11f(x_0) + f(x_1) + f(x_2) + 11f(x_3)] + \frac{95h^5}{144} f^{(iv)}(\xi)$$

Bileşik İntegrasyon.
Bileşik Simpson Kuralı:

$$\int_a^b f(x)\, dx = \frac{h}{3}\left[f(a) + 2\sum_{j=1}^{(n/2)-1} f(x_{2j}) + 4\sum_{j=1}^{n/2} f(x_{2j-1}) + f(b)\right] - \frac{b-a}{180} h^4 f^{(iv)}(\xi)$$

Bileşik Yamuk Kuralı:

$$\int_a^b f(x)\, dx = \frac{h}{2}\left[f(a) + 2\sum_{j=1}^{n-1} f(x_j) + f(b)\right] - \frac{b-a}{12} h^2 f''(\xi)$$

Bileşik Orta Nokta Kuralı:

$$\int_a^b f(x)\, dx = 2h\sum_{j=0}^{n/2} f(x_{2j}) + \frac{b-a}{6} h^2 f''(\xi)$$