

Przykłady:

Dane dla  
 $x_0, x_2$  w  $T_4$   
 powtarzone

$$T_2(f) = h \left[ \frac{f(x_0)}{2} + f(x_1) + \frac{f(x_2)}{2} \right]$$

$$h = \frac{b-a}{2}, \quad x_0 = a, \quad x_1 = \frac{a+b}{2}, \quad x_2 = b$$

$$T_4(f) = h \left[ \frac{f(x_0)}{2} + f(x_1) + f(x_2) + f(x_3) + \frac{f(x_4)}{2} \right]$$

$$h = \frac{b-a}{4}, \quad x_0 = a, \quad x_1 = \frac{3a+b}{4}, \quad x_2 = \frac{a+b}{2},$$

$$x_3 = \frac{a+3b}{4}, \quad x_4 = b$$

Rozważmy trzy całki

$$I^{(1)} = \int_0^1 e^{-x^2} dx \doteq 0.74682413281234$$

$$I^{(2)} = \int_0^4 \frac{dx}{1+x^2} = \tan^{-1}(4) \doteq 1.3258176636680$$

$$I^{(3)} = \int_0^{2\pi} \frac{dx}{2 + \cos(x)} = \frac{2\pi}{\sqrt{3}} \doteq 3.6275987284684$$

n	I <sup>(1)</sup>		I <sup>(2)</sup>		I <sup>(3)</sup>	
	Error	Ratio	Error	Ratio	Error	Ratio
2	1.55E-2		-1.33E-1		-5.61E-1	
4	3.84E-3	4.02	-3.59E-3	37.0	-3.76E-2	14.9
8	9.59E-4	4.01	5.64E-4	-6.37	-1.93E-4	195.0
16	2.40E-4	4.00	1.44E-4	3.92	-5.19E-9	37600.0
32	5.99E-5	4.00	3.60E-5	4.00	*	
64	1.50E-5	4.00	9.01E-6	4.00	*	
128	3.74E-6	4.00	2.25E-6	4.00	*	