

$$\int_{0.9}^{1.6} \frac{\sqrt{2x+1.6} dx}{1.8 + \sqrt{0.3x^2+2.3}}$$

$$n=10$$

$$h = \frac{b-a}{n} = \frac{1.6 - 0.9}{10} = \frac{0.7}{10} = 0.07$$

Метод ~~эпюры~~ небух

$$f(0.9) = 0.543; f(0.97) = 0.552 \quad f(1.07) = 0.564$$

$$f(1.14) = 0.569 \quad f(1.18) = 0.577 \quad f(1.25) = 0.585$$

$$f(1.32) = 0.592 \quad f(1.39) = 0.598 \quad f(1.46) = 0.605$$

$$f(1.53) = 0.611 \quad \underline{\underline{f(1.6) = 0.617}}$$

$$I_{\text{неб.}} \approx 0.07 (0.543 + 0.552 + 0.564 + 0.569 +$$

$$+ 0.577 + 0.585 + 0.592 + 0.598 + 0.605 +$$

$$+ 0.611 + \underline{\underline{0.617}}) = \underline{\underline{0.56}}$$

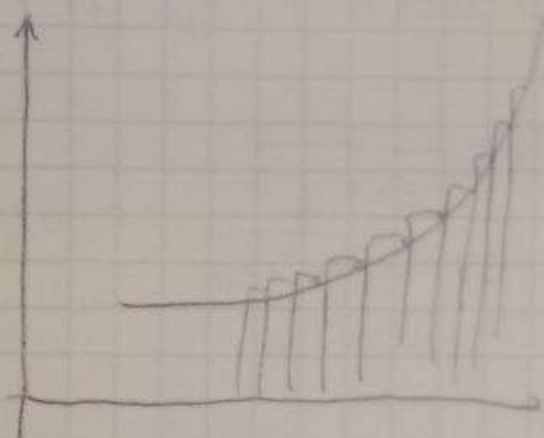
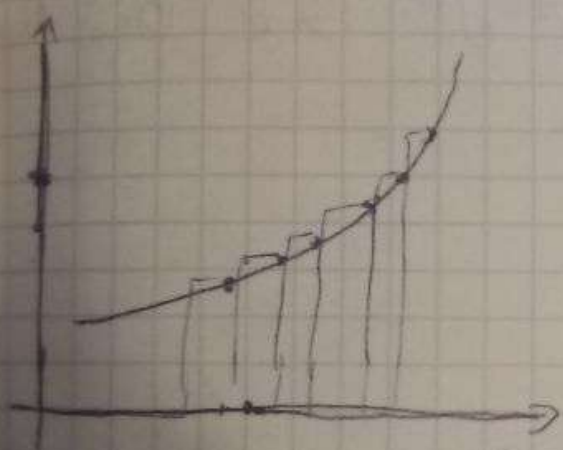
$$\int_{0.9}^{1.6} \frac{\sqrt{2x+1.6} dx}{1.8 + \sqrt{0.3x^2+2.3}} = \underline{\underline{0.369}}$$

$$f(1,6) = 0,657 \quad \text{Метод Трапеций}$$

$$I_{\text{трап}} = 0,07 \cdot (0,552 + 0,565 + 0,569 + 0,577 + 0,585 + 0,592 + 0,598 + 0,605 + 0,611 + 0,617) =$$

$$= 0,411$$

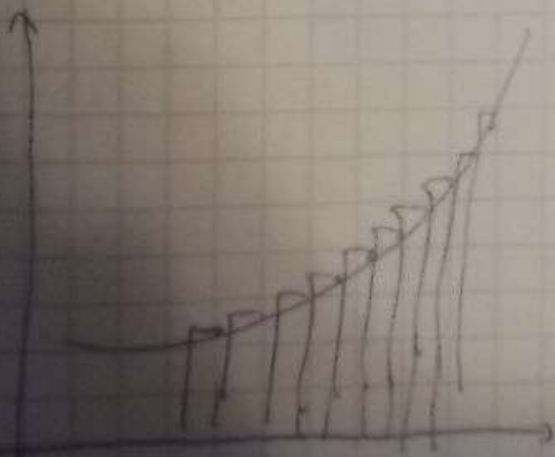
$$\int_{0,9}^{1,6} \frac{\sqrt{2x+1,6} \, dx}{1,8 + \sqrt{0,3x^2 + 2,3}} = 0,411$$



$$\text{Метод Симпсона} \quad \int_a^b f(x) dx \approx h \left[ \frac{f(x_0) + f(x_n)}{2} + f(x_1) + f(x_2) + \dots + f(x_{n-1}) \right]$$

$$I_{\text{симп}} = 0,07 \cdot \left( \frac{1}{2} 0,548 + 0,557 + 0,565 + 0,569 + 0,581 + 0,589 + 0,595 + 0,602 + 0,608 + 0,614 + 0,62 \right) =$$

$$= 0,4$$



Нерог Трапеция

$$\int_a^b f(x) dx \approx h \cdot \left[ \frac{f(x_0) + f(x_n)}{2} + f(x_1) + f(x_2) + \dots + f(x_{n-1}) \right]$$

$x_0 = 0.9$

$$\int_{0.9}^{1.6} \frac{\sqrt{2x+1.6}}{1.8 + \sqrt{0.3x^2 + 2.3}} \approx 0.408$$

Поправка Канторни

$$\int_a^b f(x) dx \approx \frac{h}{3} \left[ g_0 + g_n + 4(g_1 + g_3 + \dots + g_{n-1}) + 2(g_2 + g_4 + \dots + g_{n-2}) \right]$$

$$\int_{0.9}^{1.6} \frac{\sqrt{2x+1.6}}{1.8 + \sqrt{0.3x^2 + 2.3}} \approx 0.408$$