

2 - 3

$$\int_0^{0,2} \sin(25x^2) dx = 18 - 4$$

$$\sin \beta = \sum_{n=0}^{\infty} \frac{(-1)^n \beta^{2n+1}}{(2n+1)!} \Rightarrow \sin(25x^2) =$$

$$= \sum_{n=0}^{\infty} \frac{(-1)^n 25^{2n+1} \cdot x^{4n+2}}{(2n+1)!} \int_0^{0,2} \sum_{n=0}^{\infty} \frac{(-1)^n 25^{2n+1} \cdot x^{4n+2}}{(2n+1)!} dx =$$

$$= \sum_{n=0}^{\infty} \frac{(-1)^n \cdot 25^{2n+1} \cdot x^{4n+3}}{(2n+1)! \cdot (4n+3)} \Big|_0^{0,2} = \sum_{n=0}^{\infty} \frac{(-1)^n}{5(4n+3)(2n+1)!}$$

$$0) \frac{1}{5 \cdot 3 \cdot 1!} = \frac{1}{15!}$$

$$2) \frac{1}{5 \cdot 11 \cdot 5!} = \frac{1}{6600}$$

$$1) \frac{-1}{5 \cdot 7 \cdot 3!} = -\frac{1}{210}$$

$$3) \frac{-1}{5 \cdot 15 \cdot 7!} = -\frac{1}{378000}$$

$$\int_0^{0,2} \sin(25x^2) dx \approx \frac{1}{15} - \frac{1}{210} + \frac{1}{6600} - \frac{1}{378000} \approx$$

$$\approx 0,06205$$