

Задача 3

$$\frac{Lx}{1-x^2}$$

$$\frac{Lx}{-x^2} \rightarrow 2 \left(\frac{d}{dx} \left(\frac{x}{1-x^2} \right) \right) \rightarrow \frac{d}{dx} \left(\frac{a}{b} \right) = \frac{b \frac{da}{dx} - a \frac{db}{dx}}{b^2}$$

$$\frac{1-x^2 \left(\frac{d}{dx}(x) \right) - x \left(\frac{d}{dx}(1-x^2) \right)}{(1-x^2)^2} \rightarrow \frac{2 \left(-x \left(\frac{d}{dx}(1-x^2) \right) + 1 \right)}{(1-x^2)^2}$$

$$\frac{1-x^2 - x \left(\frac{d}{dx}(1-x^2) \right)}{(1-x^2)^2} \rightarrow \frac{2 \left(1-x^2 - \left(\frac{d}{dx}(1) \right) - \frac{d}{dx}(x) \right)}{(1-x^2)^2}$$

$$\frac{-x^2 - x \left(-\left(\frac{d}{dx}(x^2) \right) + 0 \right)}{(1-x^2)^2} \rightarrow \frac{d}{dx}(x^n) = nx^{n-1} \quad (n \downarrow)$$

$$\frac{-x^2 + 2x \cdot x}{(1-x^2)^2} \rightarrow \frac{2(1+x^2)}{(1-x^2)^2} \rightarrow \frac{2+2x^2}{(x^2-1)^2}$$

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