

1 Differentiator

wazzzuuuup, shut up and take my derivative of this function:

$$f(x) = (\sin x^2)^2 + \cos x^2$$

Znamenskaya forbade doing this, but:

$$(x^2)' = 2 \cdot x^{2-1} \cdot 1$$

Ostap once said:

$$(\cos x^2)' = \sin x^2 \cdot (-1) \cdot 2 \cdot x^{2-1} \cdot 1$$

Znamenskaya forbade doing this, but:

$$(x^2)' = 2 \cdot x^{2-1} \cdot 1$$

every kindergartener in the USSR knew that:

$$(\sin x^2)' = \cos x^2 \cdot 2 \cdot x^{2-1} \cdot 1$$

Znamenskaya forbade doing this, but:

$$((\sin x^2)^2)' = 2 \cdot (\sin x^2)^{2-1} \cdot \cos x^2 \cdot 2 \cdot x^{2-1} \cdot 1$$

the derivative of the sum can be represented as follows:

$$((\sin x^2)^2 + \cos x^2)' = 2 \cdot (\sin x^2)^{2-1} \cdot \cos x^2 \cdot 2 \cdot x^{2-1} \cdot 1 + \sin x^2 \cdot (-1) \cdot 2 \cdot x^{2-1} \cdot 1$$

with all simplification

$$((\sin x^2)^2 + \cos x^2)' = 2 \cdot (\sin x^2)^{2-1} \cdot \cos x^2 \cdot 2 \cdot x^{2-1} \cdot 1 + \sin x^2 \cdot (-1) \cdot 2 \cdot x^{2-1} \cdot 1$$