1 Introduction

$CrInGeCrInGeProduction.Supercringeintroductionhere$:

2 Some basic knowledge about researching problem...

Parameters and constants we use in this work:

Constants (3):

e = 2.718282

pi = 3.141593

AbObA = 1337.228690

Variables (3):

a = 3.141500

kek = 13.000000

x = 1.000000

Parameters of exploration :

Number of differentiates : 2

Macloren's accuracy : 3

Tanget point : 0.200000

Delta coverage of tangent point: 2.500000

Graph diapasone : $[-1 : 15]$

So let's calculate smth with a given function: f(a, kek, x) = $\cos\left(a + \frac{kek}{1.000^{89.000}}\right) + \ln\left(1.000 + x \cdot kek \cdot \left(0.000 - 1.000^{(\ln kek)}\right)\right)$

Firstly, let's simplify this expression (if possible): f(a, kek, x) = $\cos\left(a + kek\right) + \ln\left(1.000 + x \cdot kek \cdot (-1.000) \cdot 1.000\right)$

3 Exploration the expression as a function of multiple variables

Calculation value of function in the point BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!

In the point $M_0(a_0,\, kek_0,\, x_0) = (3.142,\, 13.000,\, 1.000)$ **it's value** = -nan

Personally, I've always thought about first derivation of something like that function... Haven't you?

But now, by using informatics and math skills I feel that I'm prepared enough to calculate it!

`1 step:` Finding a derivation of kek

When I was child, my father always told me: "Remember, son:

$(kek)' =$

$= 1.000$

`2 step:` Finding a derivation of x

What if:

$(x)' =$

$= 1.000$

`3 step:` Finding a derivation of $x \cdot kek$

It's really easy to find:

$(x \cdot kek)' =$

$= kek + x$

`4 step:` Finding a derivation of -1.000

Sounds logical that it is the same as:

$(-1.000)' =$ **... = [top secret] = ...** $=$

$= 0.000$

`5 step:` Finding a derivation of $(-1.000) \cdot x \cdot kek$

What if:

$((-1.000) \cdot x \cdot kek)' =$

$= (-1.000) \cdot (kek + x)$

`6 step:` Finding a derivation of 1.000

Sounds logical that it is the same as:

$(1.000)' =$

$= 0.000$

`7 step:` Finding a derivation of $1.000 + (-1.000) \cdot x \cdot kek$

Even my two-aged sister knows that:

$(1.000 + (-1.000) \cdot x \cdot kek)' =$

$= (-1.000) \cdot (kek + x)$

`8 step:` Finding a derivation of $\ln\left(1.000 + (-1.000) \cdot x \cdot kek\right)$

If someone asked me that in the middle of the night, I wouldn't hesitate to say:

$(\ln\left(1.000 + (-1.000) \cdot x \cdot kek\right))' =$

$= \frac{1.000}{1.000 + (-1.000) \cdot x \cdot kek} \cdot (-1.000) \cdot (kek + x)$

`9 step:` Finding a derivation of kek

My roommate mumbled it in his sleep all night:

$(kek)' =$ **... = [top secret] = ...** $=$

$= 1.000$

`10 step:` Finding a derivation of a

Man... Just look:

$(a)' =$

$= 1.000$

`11 step:` Finding a derivation of $a + kek$

I was asked not to tell anyone that:

$(a + kek)' =$

$= 2.000$

`12 step:` Finding a derivation of $\cos\left(a + kek\right)$

When I was child, my father always told me: "Remember, son:

$(\cos\left(a + kek\right))' =$ **... = [top secret] = ...** $=$

$= 2.000 \cdot (-1.000) \cdot \sin\left(a + kek\right)$

`13 step:` Finding a derivation of $\cos\left(a + kek\right) + \ln\left(1.000 + (-1.000) \cdot x \cdot kek\right)$

thanks to the results of my colleagues' scientific work, I know that:

$(\cos\left(a + kek\right) + \ln\left(1.000 + (-1.000) \cdot x \cdot kek\right))' =$

$= 2.000 \cdot (-1.000) \cdot \sin\left(a + kek\right) + \frac{1.000}{1.000 + (-1.000) \cdot x \cdot kek} \cdot (-1.000) \cdot (kek + x)$

Congratulations! **The first derivation of the expression** is:

f′(a, kek, x) = $2.000 \cdot (-1.000) \cdot \sin\left(a + kek\right) + \frac{1.000}{1.000 + (-1.000) \cdot x \cdot kek} \cdot (-1.000) \cdot (kek + x)$

In the point $M_0(a_0,\, kek_0,\, x_0) = (3.142,\, 13.000,\, 1.000)$ it's value = 2.00683

Finding the 2 derivation Let's find **the 1 derivation** of the expression:

`1 step:` Finding a derivation of kek

A true prince must know that:

$(kek)' =$

$= 1.000$

`2 step:` Finding a derivation of x

If someone asked me that in the middle of the night, I wouldn't hesitate to say:

$(x)' =$

$= 1.000$

`3 step:` Finding a derivation of $x \cdot kek$

What if:

$(x \cdot kek)' = \ldots = [\text{top secret}] = \ldots =$

$= kek + x$

`4 step:` Finding a derivation of -1.000

thanks to the results of my colleagues' scientific work, I know that:

$(-1.000)' = \ldots = [\text{top secret}] = \ldots =$

$= 0.000$

`5 step:` Finding a derivation of $(-1.000) \cdot x \cdot kek$

While preparing for exams, I learned a lot of new things, for example:

$((-1.000) \cdot x \cdot kek)' = \ldots = [\text{top secret}] = \ldots =$

$= (-1.000) \cdot (kek + x)$

`6 step:` Finding a derivation of 1.000

It's really easy to find:

$(1.000)' =$

$= 0.000$

`7 step:` Finding a derivation of $1.000 + (-1.000) \cdot x \cdot kek$

If someone asked me that in the middle of the night, I wouldn't hesitate to say:

$(1.000 + (-1.000) \cdot x \cdot kek)' =$

$= (-1.000) \cdot (kek + x)$

`8 step:` Finding a derivation of $\ln(1.000 + (-1.000) \cdot x \cdot kek)$

I spend the hole of my life to find the answer and finally it's:

$(\ln(1.000 + (-1.000) \cdot x \cdot kek))' = \ldots = [\text{top secret}] = \ldots =$

$= \frac{1.000}{1.000 + (-1.000) \cdot x \cdot kek} \cdot (-1.000) \cdot (kek + x)$

`9 step:` Finding a derivation of kek

I spend the hole of my life to find the answer and finally it's:

$(kek)' =$

$= 1.000$

`10 step:` Finding a derivation of a

For centuries, people have hunted for the secret knowledge that:

$(a)' =$

$= 1.000$

`11 step:` Finding a derivation of $a + kek$

A true prince must know that:

$(a + kek)' =$

$= 2.000$

`12 step:` Finding a derivation of $\cos(a + kek)$

I was asked not to tell anyone that:

$(\cos(a + kek))' = \ldots = [\text{top secret}] = \ldots =$

$= 2.000 \cdot (-1.000) \cdot \sin(a + kek)$

`13 step:` Finding a derivation of $\cos(a + kek) + \ln(1.000 + (-1.000) \cdot x \cdot kek)$

While preparing for exams, I learned a lot of new things, for example:

$(\cos(a + kek) + \ln(1.000 + (-1.000) \cdot x \cdot kek))' =$

$= 2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000 + (-1.000) \cdot x \cdot kek} \cdot (-1.000) \cdot (kek + x)$

Let's find **the 2 derivation** of the expression:

`1 step:` Finding a derivation of x

I was asked not to tell anyone that:

$(x)' =$

$= 1.000$

`2 step:` Finding a derivation of kek

Man... Just look:

$(kek)' = \ldots = [\text{top secret}] = \ldots =$

$= 1.000$

`3 step:` Finding a derivation of $kek + x$

A true prince must know that:

$(kek + x)' =$

$= 2.000$

`4 step:` Finding a derivation of -1.000

Man... Just look:

$(-1.000)' =$

$= 0.000$

`5 step:` Finding a derivation of $(-1.000) \cdot (kek + x)$

It's really easy to find:

$((-1.000) \cdot (kek + x))' = \ldots = [\text{top secret}] = \ldots =$

$= -2.000$

`6 step:` Finding a derivation of kek

My roommate mumbled it in his sleep all night:

$(kek)' = \ldots = [\text{top secret}] = \ldots =$

$= 1.000$

`7 step:` Finding a derivation of x

It's simple as fuck:

$(x)' =$

$= 1.000$

`8 step:` Finding a derivation of $x \cdot kek$

A true prince must know that:

$(x \cdot kek)' = \ldots = [\text{top secret}] = \ldots =$

$= kek + x$

`9 step:` Finding a derivation of -1.000

It's really easy to find:

$(-1.000)' =$

$= 0.000$

`10 step:` Finding a derivation of $(-1.000) \cdot x \cdot kek$
My roommate mumbled it in his sleep all night:
$((-1.000) \cdot x \cdot kek)' =$ **... = [top secret] = ...** $=$
$= (-1.000) \cdot (kek + x)$
`11 step:` Finding a derivation of 1.000
A true prince must know that:
$(1.000)' =$ **... = [top secret] = ...** $=$
$= 0.000$
`12 step:` Finding a derivation of $1.000 + (-1.000) \cdot x \cdot kek$
A true prince must know that:
$(1.000 + (-1.000) \cdot x \cdot kek)' =$ **... = [top secret] = ...** $=$
$= (-1.000) \cdot (kek + x)$
`13 step:` Finding a derivation of 1.000
Sounds logical that it is the same as:
$(1.000)' =$
$= 0.000$
`14 step:` Finding a derivation of $\frac{1.000}{1.000+(-1.000)\cdot x\cdot kek}$
I was asked not to tell anyone that:
$(\frac{1.000}{1.000+(-1.000)\cdot x\cdot kek})' =$
$= \frac{(-1.000)\cdot(-1.000)\cdot(kek+x)}{(1.000+(-1.000)\cdot x\cdot kek)^{2.000}}$
`15 step:` Finding a derivation of $\frac{1.000}{1.000+(-1.000)\cdot x\cdot kek} \cdot (-1.000) \cdot (kek + x)$
My friends always beat me, because I didn't know that:
$(\frac{1.000}{1.000+(-1.000)\cdot x\cdot kek} \cdot (-1.000) \cdot (kek + x))' =$ **... = [top secret] = ...** $=$
$= \frac{(-1.000)\cdot(-1.000)\cdot(kek+x)}{(1.000+(-1.000)\cdot x\cdot kek)^{2.000}} \cdot (-1.000) \cdot (kek + x) + (-2.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot x\cdot kek}$
`16 step:` Finding a derivation of kek
My roommate mumbled it in his sleep all night:
$(kek)' =$
$= 1.000$
`17 step:` Finding a derivation of a
My roommate mumbled it in his sleep all night:
$(a)' =$ **... = [top secret] = ...** $=$
$= 1.000$
`18 step:` Finding a derivation of $a + kek$
I was asked not to tell anyone that:
$(a + kek)' =$
$= 2.000$
`19 step:` Finding a derivation of $\sin(a + kek)$
Even my two-aged sister knows that:
$(\sin(a + kek))' =$
$= 2.000 \cdot \cos(a + kek)$
`20 step:` Finding a derivation of -1.000
My roommate mumbled it in his sleep all night:
$(-1.000)' =$ **... = [top secret] = ...** $=$
$= 0.000$
`21 step:` Finding a derivation of $(-1.000) \cdot \sin(a + kek)$
My roommate mumbled it in his sleep all night:
$((-1.000) \cdot \sin(a + kek))' =$ **... = [top secret] = ...** $=$
$= (-1.000) \cdot 2.000 \cdot \cos(a + kek)$
`22 step:` Finding a derivation of 2.000
I was asked not to tell anyone that:
$(2.000)' =$
$= 0.000$
`23 step:` Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek)$
Even my two-aged sister knows that:
$(2.000 \cdot (-1.000) \cdot \sin(a + kek))' =$ **... = [top secret] = ...** $=$
$= 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek)$
`24 step:` Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+(-1.000)\cdot x\cdot kek} \cdot (-1.000) \cdot (kek + x)$
A true prince must know that:
$(2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+(-1.000)\cdot x\cdot kek} \cdot (-1.000) \cdot (kek + x))' =$
$= 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000)\cdot(-1.000)\cdot(kek+x)}{(1.000+(-1.000)\cdot x\cdot kek)^{2.000}} \cdot (-1.000) \cdot (kek + x) + (-2.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot x\cdot kek}$
Finally... The 2 derivation of the expression:
$f^{(2)}(\text{a, kek, x}) = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000)\cdot(-1.000)\cdot(kek+x)}{(1.000+(-1.000)\cdot x\cdot kek)^{2.000}} \cdot (-1.000) \cdot (kek + x) + (-2.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot x\cdot kek}$
BRITISH SCIENTISTS WERE SHOCKED AGAIN, WHEN THEY COUNT THE 2 DERIVATION OF THIS EXPRESSION!!!
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 2.43550$

Finding partical derivations Partial derivation of the expression on the variable a:
$\frac{\partial f}{\partial a} = (-1.000) \cdot \sin(a + 13.000)$
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 0.42008$!!!
Partial derivation of the expression on the variable kek:
$\frac{\partial f}{\partial kek} = (-1.000) \cdot \sin(3.142 + kek) + (-1.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot kek}$
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 0.50342$!!!
Partial derivation of the expression on the variable x:
$\frac{\partial f}{\partial x} = (-13.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot 13.000\cdot x}$
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 1.08333$!!!

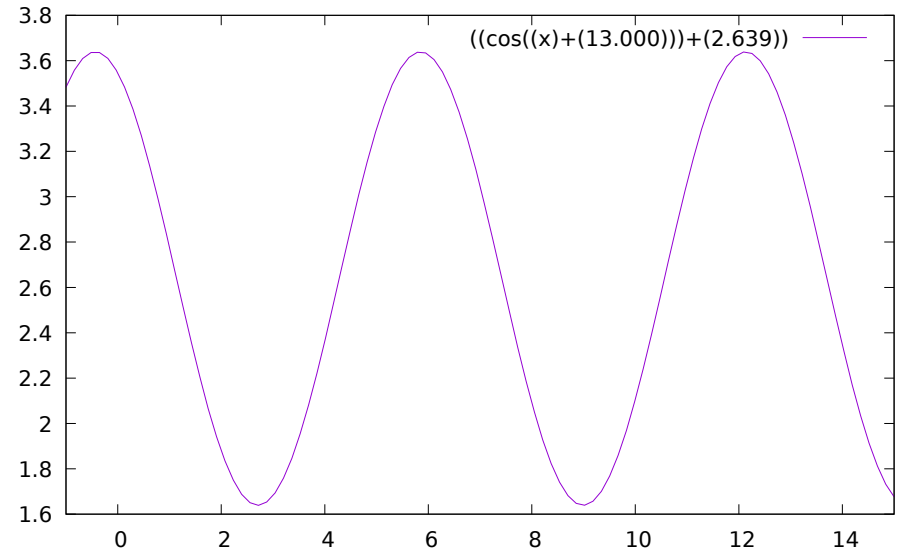
Finding full derivation Full derivation:
$\sqrt{((-1.000) \cdot \sin(a + 13.000))^{2.000} + ((-1.000) \cdot \sin(3.142 + kek) + (-1.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot kek})^{2.000} + ((-13.000) \cdot \frac{1.000}{1.000+(-1.000)\cdot 13.000\cdot x})^{2.000}}$
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 1.26630$!!!

4 Exploration the expression as a function of the first variable

Now let's consider the expression as a function of a variable: $\text{f(a)} = \cos(a + 13.000) + ?(inf)?$

Decomposing on Macloren's formula **Maklorens formula for** $a \to a_0 = 3.142$:
$\text{f(a)} = ?(inf)? + 0.420 \cdot (a - 3.142) + 0.454 \cdot (a - 3.142)^{2.000} + (-0.070) \cdot (a - 3.142)^{3.000} + \text{o}((a - 3.142)^{3.000})$

Graphics **Graph** f(a) = cos (a + 13.000) + ?(inf)? on the diapasone $a \in [-1 : 15]$:



Equations in the point **Tangent equation** in the point $a_0 = 0.200$:

f(a) = $(-0.592) \cdot (a - 0.200)$ + ?(inf)?

Normal equation in the point $a_0 = 0.200$:

f(a) = $1.689 \cdot (a - 0.200)$ + ?(inf)?

Their graphs in $\delta = 2.50000$ coverage of the point $a_0 = 0.200000$