1 Introduction

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:

$$f(a, kek, x) = \cos\left(a + \frac{kek}{1.000^{AbObA}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln e)} - 0.000)\right)$$

Firstly, let's insert all constants:

$$f(a, kek, x) = \cos\left(a + \frac{kek}{1.000^{1337.229}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln 2.718)} - 0.000)\right)$$

And simplify this expression (if possible):

$$f(a, kek, x) = \cos\left(a + kek\right) + \ln\left(1.000 + x \cdot kek\right)$$

3 Exploration the expression as a function of multiple variables

- Calculation a value of function in the point

BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ expression's value = 1.73157

- Finding the first derivation of function

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 kekWhile preparing for exams, I learned a lot of new things, for example:
$(kek)' =$

$= 1.000$

2 step: Finding a derivation of xOnly after two cups of beer you might understand it:
$(x)' =$

$= 1.000$

3 step: Finding a derivation of $x \cdot kek$Never say it to girls:
$(x \cdot kek)' =$

$= kek + x$

4 step: Finding a derivation of 1.000Only by using special skills we might know::
$(1.000)' = ... = [\text{top secret}] = ... =$

$= 0.000$

5 step: Finding a derivation of $1.000 + x \cdot kek$What if:
$(1.000 + x \cdot kek)' =$

$= kek + x$

6 step: Finding a derivation of $\ln\left(1.000 + x \cdot kek\right)$Even my two-aged sister knows that:
$(\ln\left(1.000 + x \cdot kek\right))' =$

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

7 step: Finding a derivation of kekThe first task in MIPT was to calculate:
$(kek)' =$

$= 1.000$

8 step: Finding a derivation of aNever say it to girls:
$(a)' =$

$= 1.000$

9 step: Finding a derivation of $a + kek$It's simple as fuck:
$(a + kek)' = ... = [\text{top secret}] = ... =$

$= 2.000$

10 step: Finding a derivation of $\cos{(a + kek)}$As we know:
$(\cos{(a + kek)})' =$

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

11 step: Finding a derivation of $\cos{(a + kek)} + \ln{(1.000 + x \cdot kek)}$I was asked not to tell anyone that:
$(\cos{(a + kek)} + \ln{(1.000 + x \cdot kek)})' =$

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

Congratulations! **The first derivation of the expression** is:
   f'(a, kek, x) $= 2.000 \cdot (-1.000) \cdot \sin{(a + kek)} + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$
   In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value $= 1.84017$

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

1 step: Finding a derivation of kekOnly after two cups of beer you might understand it:
$(kek)' = ... = [\text{top secret}] = ... =$

$= 1.000$

2 step: Finding a derivation of xEven my two-aged sister knows that:
$(x)' =$

$= 1.000$

3 step: Finding a derivation of $x \cdot kek$Even my two-aged sister knows that:
$(x \cdot kek)' =$

$= kek + x$

4 step: Finding a derivation of 1.000When I was a child, my father always told me: "Remember, son:
$(1.000)' =$

$= 0.000$

5 step: Finding a derivation of $1.000 + x \cdot kek$I have no words to describe this fact:
$(1.000 + x \cdot kek)' = ... = [\text{top secret}] = ... =$

$= kek + x$

6 step: Finding a derivation of $\ln{(1.000 + x \cdot kek)}$My roommate mumbled it in his sleep all night:
$(\ln{(1.000 + x \cdot kek)})' = ... = [\text{top secret}] = ... =$

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

7 step: Finding a derivation of kekI have no words to describe this fact:
$(kek)' = ... = [\text{top secret}] = ... =$

$= 1.000$

8 step: Finding a derivation of aWhile preparing for exams, I learned a lot of new things, for example:
$(a)' =$

$= 1.000$

9 step: Finding a derivation of $a + kek$It's really easy to find:
$(a + kek)' =$

$= 2.000$

10 step: Finding a derivation of $\cos{(a + kek)}$What if:
$(\cos{(a + kek)})' = ... = [\text{top secret}] = ... =$

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

11 step: Finding a derivation of $\cos{(a + kek)} + \ln{(1.000 + x \cdot kek)}$You should be aware of the fact that:
$(\cos{(a + kek)} + \ln{(1.000 + x \cdot kek)})' =$

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

So the 1 derivation of the expression is:
   $2.000 \cdot (-1.000) \cdot \sin{(a + kek)} + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$

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

1 step: Finding a derivation of xA true prince must know that:
$(x)' =$

$= 1.000$

2 step: Finding a derivation of kekFor centuries, people have hunted for the secret knowledge that:
$(kek)' =$

$= 1.000$

3 step: Finding a derivation of $kek + x$I spend the hole of my life to find the answer and finally it's:
$(kek + x)' = ... = [\text{top secret}] = ... =$

$= 2.000$

4 step: Finding a derivation of kekNever say it to girls:

$(kek)' =$

$= 1.000$

5 step: Finding a derivation of xIt's really easy to find:
$(x)' =$

$= 1.000$

6 step: Finding a derivation of $x \cdot kek$Sometimes I hear the same voice in my head, it always says:
$(x \cdot kek)' = ... = [\text{top secret}] = ... =$

$= kek + x$

7 step: Finding a derivation of 1.000Even my two-aged sister knows that:
$(1.000)' =$

$= 0.000$

8 step: Finding a derivation of $1.000 + x \cdot kek$Only by using special skills we might know::
$(1.000 + x \cdot kek)' =$

$= kek + x$

9 step: Finding a derivation of 1.000My friends always beat me, because I didn't know that:
$(1.000)' = ... = [\text{top secret}] = ... =$

$= 0.000$

10 step: Finding a derivation of $\frac{1.000}{1.000 + x \cdot kek}$A true prince must know that:
$(\frac{1.000}{1.000 + x \cdot kek})' = ... = [\text{top secret}] = ... =$

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

11 step: Finding a derivation of $\frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$Sometimes I hear the same voice in my head, it always says:
$(\frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x))' =$

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

12 step: Finding a derivation of kekOnly by using special skills we might know::
$(kek)' = ... = [\text{top secret}] = ... =$

$= 1.000$

13 step: Finding a derivation of aWhile preparing for exams, I learned a lot of new things, for example:
$(a)' =$

$= 1.000$

14 step: Finding a derivation of $a + kek$She: please, never speak with my dad about math... Me: ok) Also me after homework of matan:
$(a + kek)' = ... = [\text{top secret}] = ... =$

$= 2.000$

15 step: Finding a derivation of $\sin(a + kek)$My roommate mumbled it in his sleep all night:
$(\sin(a + kek))' = ... = [\text{top secret}] = ... =$

$= 2.000 \cdot \cos(a + kek)$

16 step: Finding a derivation of -1.000A true prince must know that:
$(-1.000)' = ... = [\text{top secret}] = ... =$

$= 0.000$

17 step: Finding a derivation of $(-1.000) \cdot \sin(a + kek)$A true prince must know that:
$((-1.000) \cdot \sin(a + kek))' =$

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

18 step: Finding a derivation of 2.000If someone asked me that in the middle of the night, I wouldn't hesitate to say:
$(2.000)' =$

$= 0.000$

19 step: Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek)$When I was a child, my father always told me: "Remember, son:
$(2.000 \cdot (-1.000) \cdot \sin(a + kek))' = ... = [\text{top secret}] = ... =$

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

20 step: Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$thanks to the results of my colleagues' scientific work, I know that:
$(2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x))' =$

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

So the 2 derivation of the expression is:
$2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek + x)}{(1.000 + x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000 + x \cdot kek}$

Finally... The 2 derivation of the expression:
$f^{(2)}(a, kek, x) = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek + x)}{(1.000 + x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000 + x \cdot kek}$

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 = 2.77280

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:
$\frac{\partial f}{\partial kek} = (-1.000) \cdot \sin{(3.142 + kek)} + \frac{1.000}{1.000 + kek}$
In the point $M_0(a_0, \, kek_0, \, x_0) = (3.142, \, 13.000, \, 1.000)$ it's value = 0.49151 !!!
Partial derivation of the expression on the variable x:
$\frac{\partial f}{\partial x} = 13.000 \cdot \frac{1.000}{1.000 + 13.000 \cdot x}$
In the point $M_0(a_0, \, kek_0, \, x_0) = (3.142, \, 13.000, \, 1.000)$ it's value = 0.92857 !!!

Finding full derivation Full derivation:
$$\sqrt{((-1.000) \cdot \sin{(a + 13.000)})^{2.000} + ((-1.000) \cdot \sin{(3.142 + kek)} + \frac{1.000}{1.000 + kek})^{2.000} + (13.000 \cdot \frac{1.000}{1.000 + 13.000 \cdot x})^{2.000}}$$
In the point $M_0(a_0, \, kek_0, \, x_0) = (3.142, \, 13.000, \, 1.000)$ it's value = 1.13150 !!!
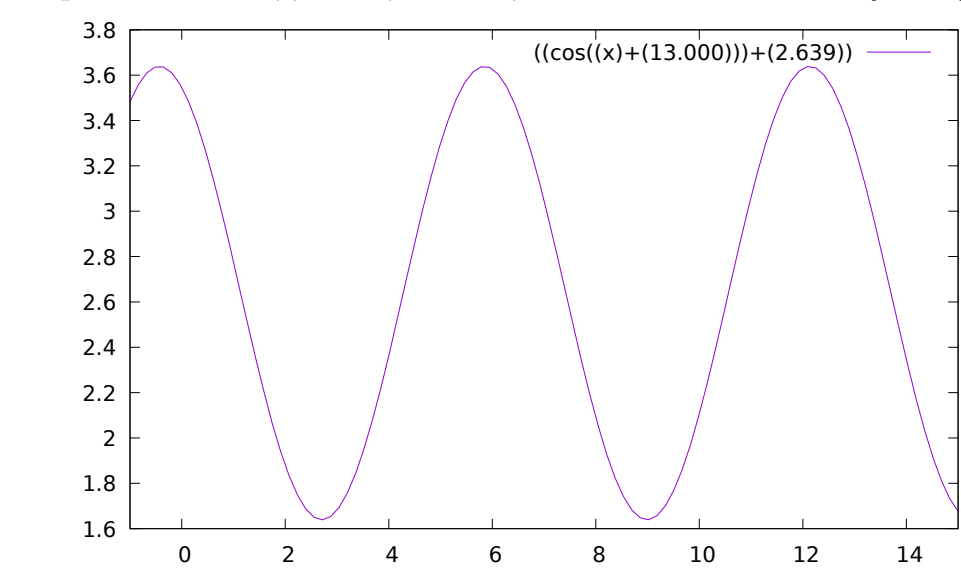
4   Exploration the expression as a function of the first variable

Now let's consider the expression as a function of the first variable a: $f(a) = \cos{(a + 13.000)} + 2.639$

Decomposing on Macloren's formula **Maklorens formula for** $a \to a_0 = 3.142$:
$f(a) = 1.732 + 0.420 \cdot (a - 3.142) + 0.454 \cdot (a - 3.142)^{2.000} + (-0.070) \cdot (a - 3.142)^{3.000} + o((a - 3.142)^{3.000})$
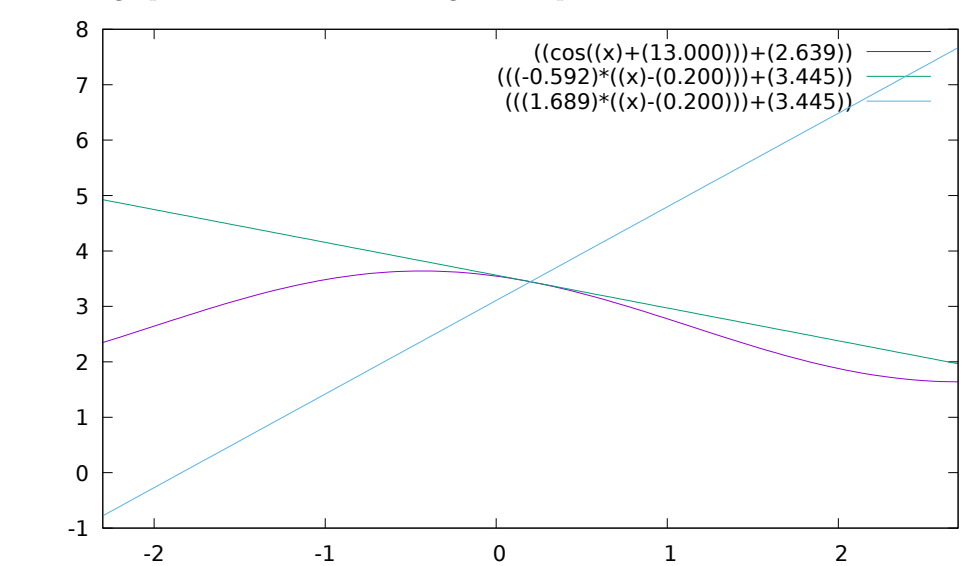
Graphics **Graph** $f(a) = \cos{(a + 13.000)} + 2.639$ on the diapasone $a \in [-1 : 15]$:

Equations in the point **Tangent equation** in the point $a_0 = 0.200$:
$f(a) = (-0.592) \cdot (a - 0.200) + 3.445$
Normal equation in the point $a_0 = 0.200$:
$f(a) = 1.689 \cdot (a - 0.200) + 3.445$
Their graphs in $\delta = 2.50000$ coverage of the point $a_0 = 0.200000$

5   Conclusion

Ultrarcringeconclusionhere :