$CrInGeCrInGeProduction.Supercringeintroductionhere:$

Let's calculate smth with a given function: f(x, y) = $\sin x \cdot y^{2.000}$
Firstly, let's insert all constants and simplify this expression: f(x, y) = $\sin x \cdot y^{2.000}$
BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!
In the point (x = 3.000, y = 2.000) it's value = 0.564
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:
y
While preparing for exams, I learned a lot of new things, for example: $(y)' =$

=1.000
2 step. finding a derivation of:
$y^{2.000}$
It's really easy to find: $(y^{2.000})' =$

=$2.000 \cdot y$
3 step. finding a derivation of:
x
My roommate mumbled it in his sleep all night: $(x)' =$

=1.000
4 step. finding a derivation of:
$\sin x$
Sounds logical that it is the same as: $(\sin x)' =$

=$\cos x$
5 step. finding a derivation of:
$\sin x \cdot y^{2.000}$
For centuries, people have hunted for the secret knowledge that: $(\sin x \cdot y^{2.000})' =$

=$\cos x \cdot y^{2.000} + 2.000 \cdot y \cdot \sin x$
Congratulations! The first derivation of the expression is:
$\cos x \cdot y^{2.000} + 2.000 \cdot y \cdot \sin x$In the point (x = 3.000, y = 2.000) it's value = -3.395
Let's calculate the 4 derivation of the expression:
Calculating the 1 derivation of the expression:
1 step. finding a derivation of:
y
Sounds logical that it is the same as: $(y)' =$

=1.000
2 step. finding a derivation of:
$y^{2.000}$
It's really easy to find: $(y^{2.000})' =$

=$2.000 \cdot y$
3 step. finding a derivation of:
x
My roommate mumbled it in his sleep all night: $(x)' =$

=1.000
4 step. finding a derivation of:
$\sin x$
What if it equals: $(\sin x)' =$

=$\cos x$
5 step. finding a derivation of:
$\sin x \cdot y^{2.000}$
It's really easy to find: $(\sin x \cdot y^{2.000})' =$

=$\cos x \cdot y^{2.000} + 2.000 \cdot y \cdot \sin x$
Calculating the 2 derivation of the expression:
1 step. finding a derivation of:
x
Even my two-aged sister knows that it equals: $(x)' =$

=1.000
2 step. finding a derivation of:
$\sin x$
When I was child, my father always told me: "Remember, son: $(\sin x)' =$

=$\cos x$
3 step. finding a derivation of:
y
I spend the hole of my life to find the answer and finally it's: $(y)' =$

=1.000
4 step. finding a derivation of:
2.000
Man... Just look: $(2.000)' =$

=0.000
5 step. finding a derivation of:
$2.000 \cdot y$

For centuries, people have hunted for the secret knowledge that: $(2.000 \cdot y)' =$

$=2.000$
6 step. finding a derivation of:
$2.000 \cdot y \cdot \sin x$
It's really easy to find: $(2.000 \cdot y \cdot \sin x)' =$

$=2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y$
7 step. finding a derivation of:
y
It's simple as fuck: $(y)' =$

$=1.000$
8 step. finding a derivation of:
$y^{2.000}$
thanks to the results of my colleagues' scientific work, I know that it equals: $(y^{2.000})' =$

$=2.000 \cdot y$
9 step. finding a derivation of:
x
When I was child, my father always told me: "Remember, son: $(x)' =$

$=1.000$
10 step. finding a derivation of:
$\cos x$
It's really easy to find: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
11 step. finding a derivation of:
$\cos x \cdot y^{2.000}$
I was asked not to tell anyone that: $(\cos x \cdot y^{2.000})' =$

$=(-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x$
12 step. finding a derivation of:
$\cos x \cdot y^{2.000} + 2.000 \cdot y \cdot \sin x$
For centuries, people have hunted for the secret knowledge that: $(\cos x \cdot y^{2.000} + 2.000 \cdot y \cdot \sin x)' =$

$=(-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x + 2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y$
Calculating the 3 derivation of the expression:
1 step. finding a derivation of:
y
My roommate mumbled it in his sleep all night: $(y)' =$

$=1.000$
2 step. finding a derivation of:
2.000
What if it equals: $(2.000)' =$

$=0.000$
3 step. finding a derivation of:
$2.000 \cdot y$
Even my two-aged sister knows that it equals: $(2.000 \cdot y)' =$

$=2.000$
4 step. finding a derivation of:
x
I spend the hole of my life to find the answer and finally it's: $(x)' =$

$=1.000$
5 step. finding a derivation of:
$\cos x$
Even my two-aged sister knows that it equals: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
6 step. finding a derivation of:
$\cos x \cdot 2.000 \cdot y$
While preparing for exams, I learned a lot of new things, for example: $(\cos x \cdot 2.000 \cdot y)' =$

$=(-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
7 step. finding a derivation of:
x
When I was child, my father always told me: "Remember, son: $(x)' =$

$=1.000$
8 step. finding a derivation of:
$\sin x$
Sounds logical that it is the same as: $(\sin x)' =$

$=\cos x$
9 step. finding a derivation of:
2.000
A true prince must know that it equals: $(2.000)' =$

$=0.000$
10 step. finding a derivation of:

$2.000 \cdot \sin x$
My roommate mumbled it in his sleep all night: $(2.000 \cdot \sin x)' =$

$=2.000 \cdot \cos x$
11 step. finding a derivation of:
$2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y$
My roommate mumbled it in his sleep all night: $(2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y)' =$

$=2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
12 step. finding a derivation of:
x
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $(x)' =$

$=1.000$
13 step. finding a derivation of:
$\cos x$
A true prince must know that it equals: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
14 step. finding a derivation of:
y
My roommate mumbled it in his sleep all night: $(y)' =$

$=1.000$
15 step. finding a derivation of:
2.000
While preparing for exams, I learned a lot of new things, for example: $(2.000)' =$

$=0.000$
16 step. finding a derivation of:
$2.000 \cdot y$
It's really easy to find: $(2.000 \cdot y)' =$

$=2.000$
17 step. finding a derivation of:
$2.000 \cdot y \cdot \cos x$
It's really easy to find: $(2.000 \cdot y \cdot \cos x)' =$

$=2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y$
18 step. finding a derivation of:
y
When I was child, my father always told me: "Remember, son: $(y)' =$

$=1.000$
19 step. finding a derivation of:
$y^{2.000}$
What if it equals: $(y^{2.000})' =$

$=2.000 \cdot y$
20 step. finding a derivation of:
x
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $(x)' =$

$=1.000$
21 step. finding a derivation of:
$\sin x$
thanks to the results of my colleagues' scientific work, I know that it equals: $(\sin x)' =$

$=\cos x$
22 step. finding a derivation of:
(-1.000)
A true prince must know that it equals: $((-1.000))' =$

$=0.000$
23 step. finding a derivation of:
$(-1.000) \cdot \sin x$
A true prince must know that it equals: $((-1.000) \cdot \sin x)' =$

$=(-1.000) \cdot \cos x$
24 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot y^{2.000}$
When I was child, my father always told me: "Remember, son: $((-1.000) \cdot \sin x \cdot y^{2.000})' =$

$=(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x$
25 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x$
For centuries, people have hunted for the secret knowledge that: $((-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x)' =$

$=(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y$
26 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x + 2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y$
A true prince must know that it equals: $((-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot \cos x + 2.000 \cdot \sin x + \cos x \cdot 2.000 \cdot y)' =$

$=(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
Calculating the 4 derivation of the expression:

1 step. finding a derivation of:
x
I spend the hole of my life to find the answer and finally it's: $(x)' =$

$=1.000$
2 step. finding a derivation of:
$\cos x$
It's simple as fuck: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
3 step. finding a derivation of:
2.000
For centuries, people have hunted for the secret knowledge that: $(2.000)' =$

$=0.000$
4 step. finding a derivation of:
$2.000 \cdot \cos x$
It's really easy to find: $(2.000 \cdot \cos x)' =$

$=2.000 \cdot (-1.000) \cdot \sin x$
5 step. finding a derivation of:
y
It's really easy to find: $(y)' =$

$=1.000$
6 step. finding a derivation of:
2.000
I spend the hole of my life to find the answer and finally it's: $(2.000)' =$

$=0.000$
7 step. finding a derivation of:
$2.000 \cdot y$
I was asked not to tell anyone that: $(2.000 \cdot y)' =$

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

$=1.000$
9 step. finding a derivation of:
$\sin x$
Even my two-aged sister knows that it equals: $(\sin x)' =$

$=\cos x$
10 step. finding a derivation of:
(-1.000)
I spend the hole of my life to find the answer and finally it's: $((-1.000))' =$

$=0.000$
11 step. finding a derivation of:
$(-1.000) \cdot \sin x$
It's really easy to find: $((-1.000) \cdot \sin x)' =$

$=(-1.000) \cdot \cos x$
12 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot 2.000 \cdot y$
It's really easy to find: $((-1.000) \cdot \sin x \cdot 2.000 \cdot y)' =$

$=(-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x$
13 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
It's simple as fuck: $((-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x)' =$

$=(-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x$
14 step. finding a derivation of:
x
It's simple as fuck: $(x)' =$

$=1.000$
15 step. finding a derivation of:
$\cos x$
A true prince must know that it equals: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
16 step. finding a derivation of:
2.000
My roommate mumbled it in his sleep all night: $(2.000)' =$

$=0.000$
17 step. finding a derivation of:
$2.000 \cdot \cos x$
I was asked not to tell anyone that: $(2.000 \cdot \cos x)' =$

$=2.000 \cdot (-1.000) \cdot \sin x$

18 step. finding a derivation of:
$2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
I spend the hole of my life to find the answer and finally it's: $(2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x)' =$

$=2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x$
19 step. finding a derivation of:
y
It's really easy to find: $(y)' =$

$=1.000$
20 step. finding a derivation of:
2.000
What if it equals: $(2.000)' =$

$=0.000$
21 step. finding a derivation of:
$2.000 \cdot y$
While preparing for exams, I learned a lot of new things, for example: $(2.000 \cdot y)' =$

$=2.000$
22 step. finding a derivation of:
x
Even my two-aged sister knows that it equals: $(x)' =$

$=1.000$
23 step. finding a derivation of:
$\sin x$
What if it equals: $(\sin x)' =$

$=\cos x$
24 step. finding a derivation of:
(-1.000)
It's simple as fuck: $((-1.000))' =$

$=0.000$
25 step. finding a derivation of:
$(-1.000) \cdot \sin x$
My roommate mumbled it in his sleep all night: $((-1.000) \cdot \sin x)' =$

$=(-1.000) \cdot \cos x$
26 step. finding a derivation of:
$(-1.000) \cdot \sin x \cdot 2.000 \cdot y$
It's simple as fuck: $((-1.000) \cdot \sin x \cdot 2.000 \cdot y)' =$

$=(-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x$
27 step. finding a derivation of:
x
A true prince must know that it equals: $(x)' =$

$=1.000$
28 step. finding a derivation of:
$\cos x$
My roommate mumbled it in his sleep all night: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
29 step. finding a derivation of:
2.000
A true prince must know that it equals: $(2.000)' =$

$=0.000$
30 step. finding a derivation of:
$2.000 \cdot \cos x$
A true prince must know that it equals: $(2.000 \cdot \cos x)' =$

$=2.000 \cdot (-1.000) \cdot \sin x$
31 step. finding a derivation of:
$2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y$
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $(2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y)' =$

$=2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x$
32 step. finding a derivation of:
x
I spend the hole of my life to find the answer and finally it's: $(x)' =$

$=1.000$
33 step. finding a derivation of:
$\sin x$
When I was child, my father always told me: "Remember, son: $(\sin x)' =$

$=\cos x$
34 step. finding a derivation of:
(-1.000)
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $((-1.000))' =$

$=0.000$

35 step. finding a derivation of:
$(-1.000) \cdot \sin x$
thanks to the results of my colleagues' scientific work, I know that it equals: $((-1.000) \cdot \sin x)' =$

$=(-1.000) \cdot \cos x$
36 step. finding a derivation of:
y
For centuries, people have hunted for the secret knowledge that: $(y)' =$

$=1.000$
37 step. finding a derivation of:
2.000
For centuries, people have hunted for the secret knowledge that: $(2.000)' =$

$=0.000$
38 step. finding a derivation of:
$2.000 \cdot y$
What if it equals: $(2.000 \cdot y)' =$

$=2.000$
39 step. finding a derivation of:
$2.000 \cdot y \cdot (-1.000) \cdot \sin x$
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $(2.000 \cdot y \cdot (-1.000) \cdot \sin x)' =$

$=2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y$
40 step. finding a derivation of:
y
I was asked not to tell anyone that: $(y)' =$

$=1.000$
41 step. finding a derivation of:
$y^{2.000}$
A true prince must know that it equals: $(y^{2.000})' =$

$=2.000 \cdot y$
42 step. finding a derivation of:
x
Man... Just look: $(x)' =$

$=1.000$
43 step. finding a derivation of:
$\cos x$
My roommate mumbled it in his sleep all night: $(\cos x)' =$

$=(-1.000) \cdot \sin x$
44 step. finding a derivation of:
(-1.000)
It's simple as fuck: $((-1.000))' =$

$=0.000$
45 step. finding a derivation of:
$(-1.000) \cdot \cos x$
I was asked not to tell anyone that: $((-1.000) \cdot \cos x)' =$

$=(-1.000) \cdot (-1.000) \cdot \sin x$
46 step. finding a derivation of:
$(-1.000) \cdot \cos x \cdot y^{2.000}$
If someone asked me that in the middle of the night, I wouldn't hesitate to say: $((-1.000) \cdot \cos x \cdot y^{2.000})' =$

$=(-1.000) \cdot (-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \cos x$
47 step. finding a derivation of:
$(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x$
Man... Just look: $((-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x)' =$

$=(-1.000) \cdot (-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \cos x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y$
48 step. finding a derivation of:
$(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y$
When I was child, my father always told me: "Remember, son: $((-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y)' =$

$=(-1.000) \cdot (-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \cos x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x$
49 step. finding a derivation of:
$(-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x$
It's really easy to find: $((-1.000) \cdot \cos x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \sin x + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x + (-1.000) \cdot \sin x \cdot 2.000 \cdot y + 2.000 \cdot \cos x)' =$

$=(-1.000) \cdot (-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \cos x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x$
Finally... The 4 derivation of the expression:
$(-1.000) \cdot (-1.000) \cdot \sin x \cdot y^{2.000} + 2.000 \cdot y \cdot (-1.000) \cdot \cos x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x + (-1.000) \cdot \cos x \cdot 2.000 \cdot y + 2.000 \cdot (-1.000) \cdot \sin x + 2.000 \cdot (-1.000) \cdot \sin x$
BRITISH SCIENTISTS WERE SHOCKED AGAIN, WHEN THEY COUNT THE 4 DERIVATION OF THIS EXPRESSION!!!
In the point (x = 3.000, y = 2.000) it's value = 14.711
Partial derivation of the expression on the variable x:
$\frac{\partial f}{\partial x} = 4.000 \cdot \cos x$
In the point (x = 3.000, y = 2.000) it's value = -3.959970 !!!
Partial derivation of the expression on the variable y:
$\frac{\partial f}{\partial y} = 0.141 \cdot 2.000 \cdot y$
In the point (x = 3.000, y = 2.000) it's value = 0.564480 !!!

Full derivation:
$\sqrt{(4.000 \cdot \cos x)^{2.000} + (0.141 \cdot 2.000 \cdot y)^{2.000}}$
In the point (x = 3.000, y = 2.000) it's value = 4.000 !!!
Let's consider the expression as a function of x variable: f(x) = $4.000 \cdot \sin x$
Maklorens formula for $x \to 3.000$: f(x) = $0.564 + (-3.960) \cdot (x - 3.000) + (-0.282) \cdot (x - 3.000)^{2.000} + 0.660 \cdot (x - 3.000)^{3.000} + 0.024 \cdot (x - 3.000)^{4.000} + (-0.033) \cdot (x - 3.000)^{5.000}$+o($(x - 3.000)^{5.000}$)
Graph f(x):

Tangent equation in the point x = 0.000: f(x) = $4.000 \cdot x$
Normal equation in the point x = 0.000: f(x) = $(-0.250) \cdot (x - 0.000) + 0.000$