

Let’s calculate smth with expression given: $f(x, y) = x \cdot y^{2.000}$
Firstly, let’s insert all constants and simplify it: $f(x, y) = x \cdot y^{2.000}$
BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!
In the point (x = 3.000, y = 2.000)it’s value = 12.000
1 step: finding a derivation: y
If someone asked me that in the middle of the night, I wouldn’t hesitate to say:

$$1.000$$

2 step: finding a derivation: $y^{2.000}$
It’s really easy to find:

$$2.000 \cdot y$$

3 step: finding a derivation: x
Even my two-aged sister knows that it equals:

$$1.000$$

4 step: finding a derivation: $x \cdot y^{2.000}$
It’s simple as fuck:

$$y^{2.000} + 2.000 \cdot y \cdot x$$

Congratulations! The first derivation of the expression is:

$$y^{2.000} + 2.000 \cdot y \cdot x$$

In the point (x = 3.000, y = 2.000) it’s value = 16.000
Let’s calculate the 3 derivation of the expression:
Calculating the 1 derivation of the expression:
1 step: finding a derivation: y
If someone asked me that in the middle of the night, I wouldn’t hesitate to say:

$$1.000$$

2 step: finding a derivation: $y^{2.000}$
It’s simple as fuck:

$$2.000 \cdot y$$

3 step: finding a derivation: x
It’s really easy to find:

$$1.000$$

4 step: finding a derivation: $x \cdot y^{2.000}$
Even my two-aged sister knows that it equals:

$$y^{2.000} + 2.000 \cdot y \cdot x$$

Calculating the 2 derivation of the expression:
1 step: finding a derivation: x
Man... Just look:

$$1.000$$

2 step: finding a derivation: y
It’s really easy to find:

$$1.000$$

3 step: finding a derivation: 2.000
Even my two-aged sister knows that it equals:

$$0.000$$

4 step: finding a derivation: $2.000 \cdot y$
Even my two-aged sister knows that it equals:

$$2.000$$

5 step: finding a derivation: $2.000 \cdot y \cdot x$
It’s simple as fuck:

$$2.000 \cdot x + 2.000 \cdot y$$

6 step: finding a derivation: y
Man... Just look:

$$1.000$$

7 step: finding a derivation: $y^{2.000}$
If someone asked me that in the middle of the night, I wouldn’t hesitate to say:

$$2.000 \cdot y$$

8 step: finding a derivation: $y^{2.000} + 2.000 \cdot y \cdot x$
It’s really easy to find:

$$2.000 \cdot y + 2.000 \cdot x + 2.000 \cdot y$$

Calculating the 3 derivation of the expression:
1 step: finding a derivation: y
It’s simple as fuck:

$$1.000$$

2 step: finding a derivation: 2.000
It’s really easy to find:

$$0.000$$

3 step: finding a derivation: $2.000 \cdot y$
Even my two-aged sister knows that it equals:

$$2.000$$

4 step: finding a derivation: x

It's really easy to find:

1.000

5 step: finding a derivation: 2.000

It's really easy to find:

0.000

6 step: finding a derivation: $2.000 \cdot x$

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

2.000

7 step: finding a derivation: $2.000 \cdot x + 2.000 \cdot y$

Even my two-aged sister knows that it equals:

4.000

8 step: finding a derivation: y

Man... Just look:

1.000

9 step: finding a derivation: 2.000

Even my two-aged sister knows that it equals:

0.000

10 step: finding a derivation: $2.000 \cdot y$

It's simple as fuck:

2.000

11 step: finding a derivation: $2.000 \cdot y + 2.000 \cdot x + 2.000 \cdot y$

Even my two-aged sister knows that it equals:

6.000

Finally... The 3 derivation of the expression:

6.000

BRITISH SCIENTISTS WERE SHOCKED AGAIN, WHEN THEY COUNT THE 3 DERIVATION OF THIS EXPRESSION!!!

In the point (x = 3.000, y = 2.000)it's value = 6.000

Partial derivation of the expression on the variable 'x':

$\frac{\partial f}{\partial x} = 4.000$

In the point (x = 3.000, y = 2.000) it's value = 4.000000 !!!

Partial derivation of the expression on the variable 'y':

$\frac{\partial f}{\partial y} = 3.000 \cdot 2.000 \cdot y$

In the point (x = 3.000, y = 2.000) it's value = 12.000000 !!!

Full derivation:

$\sqrt{16.000 + (3.000 \cdot 2.000 \cdot y)^{2.000}}$

In the point (x = 3.000, y = 2.000)it's value = 12.649 !!!

Let's consider the expression as a function of x variable: $f(x) = 4.000 \cdot x$

Maklorens formula for $x \rightarrow 3.000$: $f(x) = 12.000 + 4.000 \cdot (x - 3.000) + o((x - 3.000)^{4.000})$

Graph f(x):

Tangent equation in point -2.000:

$f(x) = 4.000 \cdot (x - (-2.000)) + (-8.000)$

Normal equation in point -2.000: $f(x) = (-0.250) \cdot (x - (-2.000)) + (-8.000)$

2