CrInGeCrInGe Production. Super cringe introduction here:
Let's calculate smth with expression given: f(x, y, z) =

$$\frac{x^3 + \frac{1}{\sinh(2 \cdot y^2 + x + 3)}}{\ln \arctan z}$$

Firstly, let's insert all constants and simplify it:

$$\frac{x^3 + \frac{1}{\sinh(2 \cdot y^2 + x + 3)}}{\ln \arctan z}$$

BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!! IN THE POINT (x = 0.500, y = 1.000, z = 5.000)IT'S VALUE = 0.420 !!!

1 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

2 step: finding a derivation of function:

$$\arctan z$$

here it is:

$$\frac{1}{1 + z^2}$$

3 step: finding a derivation of function:

$$\ln \arctan z$$

here it is:

$$\frac{1}{\arctan z} \cdot \frac{1}{1 + z^2}$$

4 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

5 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

6 step: finding a derivation of function:

$$y$$

$$1$$

here it is:

$$1$$

7 step: finding a derivation of function:

$$y^2$$

here it is:

$$2 \cdot y$$

8 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

9 step: finding a derivation of function:

$$2 \cdot y^2$$

here it is:

$$2 \cdot 2 \cdot y$$

10 step: finding a derivation of function:

$$2 \cdot y^2 + x$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

11 step: finding a derivation of function:

$$(2 \cdot y^2 + x + 3)$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

12 step: finding a derivation of function:

$$\sinh(2 \cdot y^2 + x + 3)$$

here it is:

$$\cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

13 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

$$2$$

14 step: finding a derivation of function:

$$\frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)}$$

here it is:

$$\frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}$$

15 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

16 step: finding a derivation of function:

$$x^3$$

here it is:

$$3 \cdot x^2$$

17 step: finding a derivation of function:

$$x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)}$$

here it is:

$$3 \cdot x^2 + \frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}$$

18 step: finding a derivation of function:

$$\frac{x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)}}{\ln \arctan z}$$

here it is:

$$\frac{(3 \cdot x^2 + \frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}) \cdot \ln \arctan z - \frac{1}{\arctan z} \cdot \frac{1}{1 + z^2} \cdot (x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)})}{\left(\ln \arctan z\right)^2}$$

Congratulations! The first derivation of the expression is:

$$\frac{(3 \cdot x^2 + \frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}) \cdot \ln \arctan z - \frac{1}{\arctan z} \cdot \frac{1}{1 + z^2} \cdot (x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)})}{\left(\ln \arctan z\right)^2}$$

IN THE POINT (x = 0.500, y = 1.000, z = 5.000)IT'S VALUE = 2.198 !!!

Let's calculate the 2 derivation of the expression:

Calculating the 1 derivation of the expression:

1 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

2 step: finding a derivation of function:

$$\arctan z$$

here it is:

$$\frac{1}{1+z^2}$$

3 step: finding a derivation of function:

$$\ln \arctan z$$

here it is:

$$\frac{1}{\arctan z} \cdot \frac{1}{1+z^2}$$

4 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

5 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

6 step: finding a derivation of function:

$$y$$

here it is:

$$1$$

7 step: finding a derivation of function:

$$y^2$$

here it is:

$$2 \cdot y$$

8 step: finding a derivation of function:

$$2$$

$$4$$

here it is:

$$0$$

9 step: finding a derivation of function:

$$2 \cdot y^2$$

here it is:

$$2 \cdot 2 \cdot y$$

10 step: finding a derivation of function:

$$2 \cdot y^2 + x$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

11 step: finding a derivation of function:

$$(2 \cdot y^2 + x + 3)$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

12 step: finding a derivation of function:

$$\sinh(2 \cdot y^2 + x + 3)$$

here it is:

$$\cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

13 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

14 step: finding a derivation of function:

$$\frac{1}{\sinh(2 \cdot y^2 + x + 3)}$$

here it is:

$$\frac{(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)}{(\sinh(2 \cdot y^2 + x + 3))^2}$$

15 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

$$5$$

16 step: finding a derivation of function:

$$x^3$$

here it is:

$$3 \cdot x^2$$

17 step: finding a derivation of function:

$$x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)}$$

here it is:

$$3 \cdot x^2 + \frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}$$

18 step: finding a derivation of function:

$$\frac{x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)}}{\ln \arctan z}$$

here it is:

$$\frac{(3 \cdot x^2 + \frac{(-1) \cdot \cosh\left(2 \cdot y^2 + x + 3\right) \cdot (2 \cdot 2 \cdot y + 1)}{\left(\sinh\left(2 \cdot y^2 + x + 3\right)\right)^2}) \cdot \ln \arctan z - \frac{1}{\arctan z} \cdot \frac{1}{1 + z^2} \cdot (x^3 + \frac{1}{\sinh\left(2 \cdot y^2 + x + 3\right)})}{\left(\ln \arctan z\right)^2}$$

Calculating the 2 derivation of the expression:

1 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

2 step: finding a derivation of function:

$$\arctan z$$

here it is:

$$\frac{1}{1 + z^2}$$

3 step: finding a derivation of function:

$$(\ln \arctan z)$$

here it is:

$$\frac{1}{\arctan z} \cdot \frac{1}{1 + z^2}$$

4 step: finding a derivation of function:

$$\left(\ln \arctan z\right)^2$$

here it is:

$$2 \cdot \ln \arctan z \cdot \frac{1}{\arctan z} \cdot \frac{1}{1+z^2}$$

5 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

6 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

7 step: finding a derivation of function:

$$y$$

here it is:

$$1$$

8 step: finding a derivation of function:

$$y^2$$

here it is:

$$2 \cdot y$$

9 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

10 step: finding a derivation of function:

$$2 \cdot y^2$$

here it is:

$$2 \cdot 2 \cdot y$$

11 step: finding a derivation of function:

$$2 \cdot y^2 + x$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

12 step: finding a derivation of function:

$$(2 \cdot y^2 + x + 3)$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

13 step: finding a derivation of function:

$$\sinh(2 \cdot y^2 + x + 3)$$

here it is:

$$\cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

14 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

15 step: finding a derivation of function:

$$\frac{1}{\sinh(2 \cdot y^2 + x + 3)}$$

here it is:

$$\frac{(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)}{(\sinh(2 \cdot y^2 + x + 3))^2}$$

16 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

17 step: finding a derivation of function:

$$x^3$$

here it is:

$$3 \cdot x^2$$

18 step: finding a derivation of function:

$$(x^3 + \frac{1}{\sinh(2 \cdot y^2 + x + 3)})$$

here it is:

$$3 \cdot x^2 + \frac{(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)}{(\sinh(2 \cdot y^2 + x + 3))^2}$$

19 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

20 step: finding a derivation of function:

$$z^2$$

here it is:

$$2 \cdot z$$

21 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

22 step: finding a derivation of function:

$$1 + z^2$$

here it is:

$$2 \cdot z$$

23 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

24 step: finding a derivation of function:

$$\frac{1}{1 + z^2}$$

here it is:

$$\frac{(-1) \cdot 2 \cdot z}{(1 + z^2)^2}$$

25 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

26 step: finding a derivation of function:

$$\arctan z$$

here it is:

$$\frac{1}{1+z^2}$$

27 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

28 step: finding a derivation of function:

$$\frac{1}{\arctan z}$$

here it is:

$$\frac{(-1)\cdot\frac{1}{1+z^2}}{(\arctan z)^2}$$

29 step: finding a derivation of function:

$$\frac{1}{\arctan z}\cdot\frac{1}{1+z^2}$$

here it is:

$$\frac{(-1)\cdot\frac{1}{1+z^2}}{(\arctan z)^2}\cdot\frac{1}{1+z^2}+\frac{(-1)\cdot 2\cdot z}{(1+z^2)^2}\cdot\frac{1}{\arctan z}$$

30 step: finding a derivation of function:

$$\frac{1}{\arctan z}\cdot\frac{1}{1+z^2}\cdot(x^3+\frac{1}{\sinh(2\cdot y^2+x+3)})$$

here it is:

$$(\frac{(-1)\cdot\frac{1}{1+z^2}}{(\arctan z)^2}\cdot\frac{1}{1+z^2}+\frac{(-1)\cdot 2\cdot z}{(1+z^2)^2}\cdot\frac{1}{\arctan z})\cdot(x^3+\frac{1}{\sinh(2\cdot y^2+x+3)})+(3\cdot x^2+\frac{(-1)\cdot\cosh(2\cdot y^2+$$

31 step: finding a derivation of function:

$$z$$

here it is:

$$1$$

32 step: finding a derivation of function:

$$\arctan z$$

here it is:

$$\frac{1}{1+z^2}$$

33 step: finding a derivation of function:

$$\ln \arctan z$$

here it is:

$$\frac{1}{\arctan z} \cdot \frac{1}{1+z^2}$$

34 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

35 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

36 step: finding a derivation of function:

$$y$$

here it is:

$$1$$

37 step: finding a derivation of function:

$$y^2$$

here it is:

$$2 \cdot y$$

38 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

39 step: finding a derivation of function:

$$2 \cdot y^2$$

here it is:

$$2 \cdot 2 \cdot y$$

40 step: finding a derivation of function:

$$2 \cdot y^2 + x$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

41 step: finding a derivation of function:

$$(2 \cdot y^2 + x + 3)$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

42 step: finding a derivation of function:

$$(\sinh(2 \cdot y^2 + x + 3))$$

here it is:

$$\cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

43 step: finding a derivation of function:

$$(\sinh(2 \cdot y^2 + x + 3))^2$$

here it is:

$$2 \cdot \sinh(2 \cdot y^2 + x + 3) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

44 step: finding a derivation of function:

$$1$$

here it is:

$$0$$

45 step: finding a derivation of function:

$$y$$

here it is:

$$1$$

46 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

47 step: finding a derivation of function:

$$2 \cdot y$$

here it is:

$$2$$

48 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

49 step: finding a derivation of function:

$$2 \cdot 2 \cdot y$$

here it is:

$$4$$

50 step: finding a derivation of function:

$$(2 \cdot 2 \cdot y + 1)$$

here it is:

$$4$$

51 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

52 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

53 step: finding a derivation of function:

$$y$$

here it is:

$$1$$

54 step: finding a derivation of function:

$$y^2$$

here it is:

$$2 \cdot y$$

55 step: finding a derivation of function:

$$2$$

here it is:

$$0$$

56 step: finding a derivation of function:

$$2 \cdot y^2$$

here it is:

$$2 \cdot 2 \cdot y$$

57 step: finding a derivation of function:

$$2 \cdot y^2 + x$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

58 step: finding a derivation of function:

$$(2 \cdot y^2 + x + 3)$$

here it is:

$$2 \cdot 2 \cdot y + 1$$

59 step: finding a derivation of function:

$$\cosh(2 \cdot y^2 + x + 3)$$

here it is:

$$\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

60 step: finding a derivation of function:

$$\cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

here it is:

$$\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3)$$

61 step: finding a derivation of function:

$$(-1)$$

here it is:

$$0$$

62 step: finding a derivation of function:

$$(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)$$

here it is:

$$(-1) \cdot (\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3))$$

63 step: finding a derivation of function:

$$\frac{(-1)\cdot\cosh\left(2\cdot y^2+x+3\right)\cdot(2\cdot 2\cdot y+1)}{\left(\sinh\left(2\cdot y^2+x+3\right)\right)^2}$$

here it is:

$$\frac{(-1)\cdot(\sinh\left(2\cdot y^2+x+3\right)\cdot(2\cdot 2\cdot y+1)\cdot(2\cdot 2\cdot y+1)+4\cdot\cosh\left(2\cdot y^2+x+3\right))\cdot(\sinh\left(2\cdot y^2+x+3\right))^2}{((\sinh\left(2\cdot y^2+\right.}$$

64 step: finding a derivation of function:

$$x$$

here it is:

$$1$$

65 step: finding a derivation of function:

$$x^2$$

here it is:

$$2\cdot x$$

66 step: finding a derivation of function:

$$3$$

here it is:

$$0$$

67 step: finding a derivation of function:

$$3\cdot x^2$$

here it is:

$$3\cdot 2\cdot x$$

68 step: finding a derivation of function:

$$(3\cdot x^2+\frac{(-1)\cdot\cosh\left(2\cdot y^2+x+3\right)\cdot(2\cdot 2\cdot y+1)}{\left(\sinh\left(2\cdot y^2+x+3\right)\right)^2})$$

here it is:

$$3\cdot 2\cdot x+\frac{(-1)\cdot(\sinh\left(2\cdot y^2+x+3\right)\cdot(2\cdot 2\cdot y+1)\cdot(2\cdot 2\cdot y+1)+4\cdot\cosh\left(2\cdot y^2+x+3\right))\cdot(\sinh\left(2\cdot y^2+\right.}{((\sinh}$$

69 step: finding a derivation of function:

$$(3\cdot x^2+\frac{(-1)\cdot\cosh\left(2\cdot y^2+x+3\right)\cdot(2\cdot 2\cdot y+1)}{\left(\sinh\left(2\cdot y^2+x+3\right)\right)^2})\cdot\ln\arctan z$$

here it is:

$$(3 \cdot 2 \cdot x + \frac{(-1) \cdot (\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3)) \cdot (\sinh(2 \cdot y^2 -$$
$$((\sin$$

70 step: finding a derivation of function:

$$(3 \cdot x^2 + \frac{(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)}{(\sinh(2 \cdot y^2 + x + 3))^2}) \cdot \ln \arctan z - \frac{1}{\arctan z} \cdot \frac{1}{1 + z^2} \cdot (x^3 + \frac{1}{\sinh(2 \cdot y^2 + x +}$$

here it is:

$$((3 \cdot 2 \cdot x + \frac{(-1) \cdot (\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3)) \cdot (\sinh(2 \cdot y^2$$
$$((si$$

71 step: finding a derivation of function:

$$\frac{(3 \cdot x^2 + \frac{(-1) \cdot \cosh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1)}{(\sinh(2 \cdot y^2 + x + 3))^2}) \cdot \ln \arctan z - \frac{1}{\arctan z} \cdot \frac{1}{1 + z^2} \cdot (x^3 + \frac{1}{\sinh(2 \cdot y^2 + x + 3)})}{(\ln \arctan z)^2}$$

here it is:

$$\frac{(((3 \cdot 2 \cdot x + \frac{(-1) \cdot (\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3)) \cdot (\sinh(2 \cdot y^2 + x + 3))^2 - 2 \cdot \sinh(2 \cdot y^2 + x + 3) \cdot \cosh(2 \cdot y^2 +}{((\sinh(2 \cdot y^2 + x + 3))^2)^2}$$

Finally... The 2 derivation of the expression:

$$\frac{(((3 \cdot 2 \cdot x + \frac{(-1) \cdot (\sinh(2 \cdot y^2 + x + 3) \cdot (2 \cdot 2 \cdot y + 1) \cdot (2 \cdot 2 \cdot y + 1) + 4 \cdot \cosh(2 \cdot y^2 + x + 3)) \cdot (\sinh(2 \cdot y^2 + x + 3))^2 - 2 \cdot \sinh(2 \cdot y^2 + x + 3) \cdot \cosh(2 \cdot y^2 +}{((\sinh(2 \cdot y^2 + x + 3))^2)^2}$$

BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT THE 2 DERIVATION OF THIS EXPRESSION!!! IN THE POINT (x = 0.500, y = 1.000, z = 5.000)IT'S VALUE = 9.623 !!!

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

$$\frac{0 \cdot (3 \cdot x^2 + \frac{(-1) \cdot \cosh(2 + x + 3)}{(\sinh(2 + x + 3))^2})}{0}$$

IN THE POINT (x = 0.500, y = 1.000, z = 5.000) IT'S VALUE = 2.338007 !!!

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

$$\frac{0 \cdot \frac{(-1) \cdot \cosh(2 \cdot y^2 + 0 + 3) \cdot 2 \cdot 2 \cdot y}{(\sinh(2 \cdot y^2 + 0 + 3))^2}}{0}$$

IN THE POINT (x = 0.500, y = 1.000, z = 5.000) IT'S VALUE = -0.103047 !!!

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

$$\frac{(-1)\cdot 0\cdot \frac{1}{\arctan z}\cdot \frac{1}{1+z^2}}{(\ln \arctan z)^2}$$

IN THE POINT (x = 0.500, y = 1.000, z = 5.000) IT'S VALUE = -0.037045 !!!

Full derivation:

$$\sqrt{(\frac{0\cdot (3\cdot x^2+\frac{(-1)\cdot \cosh(2+x+3)}{(\sinh(2+x+3))^2})}{0})^2+(\frac{0\cdot \frac{(-1)\cdot \cosh(2\cdot y^2+0+3)\cdot 2\cdot 2\cdot y}{(\sinh(2\cdot y^2+0+3))^2}}{0})^2+(\frac{(-1)\cdot 0\cdot \frac{1}{\arctan z}\cdot \frac{1}{1+z^2}}{(\ln \arctan z)^2})^2}$$

IN THE POINT (x = 0.500, y = 1.000, z = 5.000)IT'S VALUE = 2.341 !!!

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

$$\frac{x^3+\frac{1}{\sinh(2+x+3)}}{0}$$

Maklorens formula for x near to 0.500000:

$$0+2\cdot(x-0)+5\cdot(x-0)^2+3\cdot(x-0)^3$$

And remainig member is o maloe from:

$$(x-0)^3$$

Graph f(x):

Tangent equation in point 1.000: f(x) =

$$9\cdot(x-1)+3$$

Normal equation in point 1.000: f(x) =

$$(-0)\cdot(x-1)+3$$