

1.5. Индивидуальные задания

Создать программу вычисления указанной величины. Результат проверить при заданных исходных значениях.

Выражение	Исходные данные и результат
1. $t = \frac{2 \cos(x - \pi/6)}{0,5 + \sin^2 y} \left(1 + \frac{z^2}{3 - z^2/5} \right).$	При $x = 14.26$, $y = -1.22$, $z = 3.5 \times 10^{-2}$: 0.564846.
2. $u = \frac{\sqrt[3]{8 + x - y ^2 + 1}}{x^2 + y^2 + 2} - e^{ x-y } (tg^2 z + 1)^x .$	При $x = -4.5$, $y = 0.75 \times 10^{-4}$, $z = 0.845 \times 10^2$: -55.6848.
3. $v = \frac{1 + \sin^2(x + y)}{\left x - \frac{2y}{1 + x^2 y^2} \right } x^{ y } + \cos^2[arctg(1/z)] .$	При $x = 3.74 \times 10^{-2}$, $y = -0.825$, $z = 0.16 \times 10^2$: 1.0553.

4. $w = \cos x - \cos y ^{(1+2\sin^2 y)} \left(1 + z + \frac{z^2}{2} + \frac{z^3}{3} + \frac{z^4}{4} \right).$	При $x = 0.4 \times 10^4$, $y = -0.875$, $z = -0.475 \times 10^{-3}$: 1.9873.
5. $\alpha = \ln(y^{-\sqrt{ x }})(x - y/2) + \sin^2 \arctg(z).$	При $x = -15.246$, $y = 4.642 \times 10^{-2}$, $z = 20.001 \times 10^2$: -182.036.
6. $\beta = \sqrt{10(\sqrt[3]{x} + x^{y+2})} \cdot (\arcsin^2 z - x - y)$	При $x = 16.55 \times 10^{-3}$, $y = -2.75$, $z = 0.15$: 40.630694.
7. $\gamma = 5 \arctg(x) - \frac{1}{4} \arccos(x) \frac{x + 3 x - y + x^2}{ x - y z + x^2}.$	При $x = 0.1722$, $y = 6.33$, $z = 3.25 \times 10^{-4}$: -205.305571.
8. $\varphi = \frac{e^{ x-y } x-y ^{x+y}}{\arctg x + \arctg z} + \sqrt[3]{x^6 + \ln^2 y}.$	При $x = -2.235 \times 10^{-2}$, $y = 2.23$, $z = 15.221$: 39.374.
9. $\psi = x^{y/x} - \sqrt[3]{y/x} + (y - x) \frac{\cos y - z/(y - x)}{1 + (y - x)^2}.$	При $x = 1.825 \times 10^2$, $y = 18.225$, $z = -3.298 \times 10^{-2}$: 1.2131.
10. $a = 2^{-x} \sqrt{x + 4\sqrt{ y }} \sqrt[3]{e^{x-1/\sin z}}.$	При $x = 3.981 \times 10^{-2}$, $y = -1.625 \times 10^3$, $z = 0.512$: 1.26185.
11. $b = y^{\sqrt[3]{ x }} + \cos^3 y \frac{ x - y \cdot \left(1 + \frac{\sin^2 z}{\sqrt{x + y}} \right)}{e^{ x-y } + x/2}.$	При $x = 6.251$, $y = 0.827$, $z = 25.001$: 0.7121.
12. $c = 2^{y^x} + (3^x)^y - \frac{y \cdot (\arctg z - \pi/6)}{ x + \frac{1}{y^2 + 1}}.$	При $x = 3.251$, $y = 0.325$, $z = 0.466 \times 10^{-4}$: 4.251433.
13. $f = \frac{\sqrt[4]{y + \sqrt[3]{x-1}}}{ x - y (\sin^2 z + \tg z)}.$	При $x = 17.421$, $y = 10.365 \times 10^{-3}$, $z = 0.828 \times 10^5$: 0.33056.
14. $g = \frac{y^{x+1}}{\sqrt[3]{ y-2 +3}} + \frac{x + y/2}{2 x + y } (x + 1)^{-1/\sin z}.$	При $x = 12.3 \times 10^{-1}$, $y = 15.4$, $z = 0.252 \times 10^3$: 82.825623.
15. $h = \frac{x^{y+1} + e^{y-1}}{1 + x y - \tg z } (1 + y - x) + \frac{ y - x ^2}{2} - \frac{ y - x ^3}{3}.$	При $x = 2.444$, $y = 0.869 \times 10^{-2}$, $z = -0.13 \times 10^3$: -0.49871.
16. $w = \sqrt[3]{x^6 + \ln^2 y} + \frac{e^{ x-y } x-y ^{x+y}}{\arctg(x) + \arctg(z)}.$	При $x = -2.235 \times 10^{-2}$, $y = 2.23$, $z = 15.221$: 39.374.