

### Mustaqil ishlash uchun variantlar:

$$Y = \begin{cases} \frac{\sin^3 ax^2}{\sqrt{x^2 + 1}} & \text{agar } x < q, \\ \frac{\cos(ax) + e^{-ax^3}}{\sqrt[3]{x^2} \arctg x} & \text{agar } x \geq q, \end{cases}$$

**1-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} a^3 x + \cos(x+1)^2 & x > 2 \\ e^{x+1} - \sin^2 x & 1 \leq x \leq 2 \\ \log_3 x - 2^{\sin^2 x} & x < 1 \end{cases}$$

bu yerda  $a=4$ ;  $x = 0,2$

**2-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} ax^{\lg x} + \log_4^5(x+1) & x > 2 \\ a^{x+1} & 1 \leq x \leq 2 \\ x \sin^7 x - 2|\cos x| & x < 1 \end{cases}$$

bu yerda  $a = 1.2$   $x = 0,2$

**3-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} a^{\sqrt[6]{4x}} \lg x & x > 2 \\ 3^{ax^3+1} & 1 \leq x \leq 2 \\ x^4 - 2\sqrt[4]{x^5} & x < 1 \end{cases}$$

bu yerda  $a = 1.2$   $x = 0,1$

**4-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[3]{a} \cdot x + 1 & x > 2 \\ 5^{x+1} & 0 \leq x \leq 2 \\ (x+2)^x - 2 & x < 0 \end{cases}$$

by yerda  $x = 0,3$

**5-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[3]{a} \cdot 8^x + 1 & x > 2 \\ e^{x+1} & 0 \leq x \leq 2 \\ \lg x + \sqrt{2} & x < 0 \end{cases} \quad \text{bu yerda } a = 2.2 \quad x = 0,2$$

### 6-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} x^{\lg x} + \cos^2 x & x > 4 \\ 3^{x+1} - \arctg(x+1)^3 & x = 4 \\ |x| - 2^{\ln x} & x < 4 \end{cases} \quad \text{bu yerda } a = 1.2 \quad x = 7$$

### 7-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} a\sqrt[5]{x} + \arctg^2 x & x > 4 \\ \sqrt{x^3 - 2} & x < 4 \end{cases} \quad \text{bu yerda } a = 1.2 \quad x = 0,3$$

### 8-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \lg(ax^{\sin x}) + \tg^2 x & x > 5 \\ a^{x+1} & 1 \leq x \leq 5 \\ x^2 - 2 \cos x^4 & x < 1 \end{cases} \quad \text{bu yerda } a = 1.2 \quad x = 0.1$$

### 9-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[5]{\sin a \cdot x^4} + \log_4^5 x & x > 2 \\ 3^{x+1} & 1 \leq x \leq 2 \\ |x^4 - \operatorname{tg} 2| & x < 1 \end{cases}$$

bu yerda  $x = 0,1$

### 10-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \operatorname{arctg}(4^x - 1) & x > 2 \\ a^{x+1} - \lg^3(x+1) & x = 2 \\ x^3 - 2\sqrt[5]{x} & x < 2 \end{cases}$$

bu yerda  $a=2$ ;  $x = 0,1$

### 11-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[3]{x^{\sin x}} - 4 & x > 3 \\ a^{\lg^2 x} & x = 3 \\ x^{\operatorname{arctg} x} & x < 3 \end{cases}$$

bu yerda  $a=3$ ;  $x = 0,2$

### 12-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} x^{\log_2 x} - 4 & x > 4 \\ e^x & x = 4 \\ \ln^2 x^3 & x < 4 \end{cases}$$

bu yerda  $a=2$ ,  $x = 0,4$

**13-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[4]{x} - 4^x & x > 3 \\ a^{x+\lg x} & x = 3 \\ \sqrt[5]{\lg|x|} & x < 3 \end{cases}$$

bu yerda  $a=1$ ,  $x=0,4$

**14-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} x^{\log_2 x} + 4 & x > 3 \\ e^{4^x} & x = 3 \\ \arctg^2|x-a| & x < 3 \end{cases}$$

bu yerda  $a=1$ ,  $x=0,2$

**15-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sin^3 x - 4 & x > 1 \\ a^x & x = 1 \\ \sqrt[3]{x^5} + \ln^2 x & x < 1 \end{cases}$$

bu yerda  $a=1$ ,  $x=0,1$

**16-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \lg^2 x^4 & x > 3 \\ \sqrt{2^x} & x = 3 \\ x^{e^x} & x < 3 \end{cases}$$

bu yerda  $x=3$ .

**17-variant**

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \lg^2 x^3 - 4 & x > 5 \\ \sqrt[5]{4^x} & x = 5 \\ x^{\cos x} + 5 & x < 5 \end{cases}$$

bu yerda  $x = 2$

### 18-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} x^4 \sqrt{\sin x} + 4 & x > 3 \\ 2^{x+\lg x} & x = 3 \\ x^{\log_2 x} - 2 & x < 3 \end{cases}$$

bu yerda  $x = 2$

### 19-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} \sqrt[3]{ax^2 + 1} & x > 5 \\ e^{\sin^2 x + 1} & 1 \leq x \leq 5 \\ \arctg(\lg(x - 2)) & x < 1 \end{cases}$$

bu yerda  $a = 1.2 \quad x = 1$

### 20-variant

Quyidagi misolga dastur tuzing:

$$z = \begin{cases} a^3 x + 7^3 & x > 5 \\ \sqrt[34]{e^{|x|}} & x \leq 5 \end{cases}$$

bu yerda  $a = 1.2 \quad x = 4$