

FUNKSIONAL TENGLAMALAR

Mustaqil ishlash uchun masalar

1-masala

Masala.

$f : R \rightarrow R$ uchun

$$f(x + y) = f(x) + f(y)$$

va

$$f(2) = 6$$

berilgan. $f(x)$ ni toping.

2-masala

Masala.

$f : R \rightarrow R$ uchun

$$f(x + y) = f(x) \cdot f(y)$$

va

$$f(1) = 2$$

berilgan. $f(x)$ ni toping.

3-masala

Masala.

$f : R \rightarrow R$ uchun

$$f(3x) = 3f(x)$$

va

$$f(1) = 4$$

berilgan. $f(x)$ ni toping.

4-masala

Masala.

$$f(x + y) = f(x) + f(y) + 2xy$$

va

$$f(0) = 0$$

berilgan. $f(x)$ ni toping.

5-masala

Masala.

$$f(x + 1) = f(x) + 5$$

Isbotlang: f funksiya injektiv.

6-masala

Xulosa: f sur'yektiv.

7-masala

Masala.

$$f(x + y) = f(x) + f(y) + 1$$

Konstant yechimni toping.

8-masala

Masala.

$$f(x - y) = f(x) + f(y)$$

Toping $f(x)$.

9-masala

$$f(x + y) + f(x - y) = 2f(x) + 2y^2$$

Toping $f(x)$.

10-masala

Masala.

$$f(x + y) = f(x) + f(y)$$

Va f uzluksiz, $f(1) = 5$

Toping $f(x)$.

11-masala.

$f : R \rightarrow R$ funksiya uchun:

$$\begin{aligned} f(x + 1) - f(x) &= 2x + 3 \\ f(0) &= 1 \end{aligned}$$

berilgan. $f(x)$ ni toping.

12-masala. (Aralash qo'shuvchi + kvadrat)

$f : R \rightarrow R$ uchun:

$$\begin{aligned} f(x + y) &= f(x) + f(y) + 4xy \\ f(0) &= 0 \end{aligned}$$

berilgan. $f(x)$ ni toping.

13-masala.

$f : R \rightarrow R$ uchun:

$$\begin{aligned} f(x + y) &= f(x) + f(y) + x * y \\ f(0) &= 0 \end{aligned}$$

berilgan. $f(x)$ ni toping.

14-masala.

$f : R \rightarrow R$ funksiya uchun:

$$\begin{aligned} f(x - y) &= f(x) + f(y) - 4xy \\ f(0) &= 0 \end{aligned}$$

berilgan. $f(x)$ ni toping.

15-masala.

$f : R \rightarrow R$ uchun:

$$\begin{aligned} f(2x) &= 2f(x) + 3x^2 \\ f(0) &= 0 \end{aligned}$$

berilgan. $f(x)$ ni toping.