Realne funkcije realne varijable – 1. dio

Matematika 2

Damir Horvat

FOI, Varaždin

Sadržaj

prvi zadatak

drugi zadatak

Trigonometrijske i ciklometrijske funkcije

treći zadatak

prvi zadatak

Zadatak 1

Odredite domene i nultočke sljedećih funkcija:

a)
$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$
 b) $g(x) = (2 + x - x^2)^{\frac{1}{5}}$

c)
$$h(x) = \log (10^{x-1} - 5)$$
 d) $k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

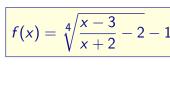
Rješenje

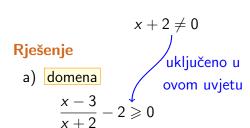
a) domena

Rješenje

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$





Rješenje

a) domena

owena
$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

Rješenje

a) domena

$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

$$x + 2$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

$$\frac{x-3}{x+2}$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

′uključeno u

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2} - 2 \geqslant 0$$
 ovom uvjetu

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$
$$-x-7$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$
$$\frac{-x-7}{x+2} \geqslant 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$
$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

omena ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2}\geqslant 0$$

$$-x - 7 = 0$$
$$x = -7$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2}\geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2}\geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0$$
 $x+2=0$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

 $x + 2 \neq 0$

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2}\geqslant 0$$

$$-x - 7 = 0$$
 $x + 2 = 0$
 $x = -7$ $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

 $x + 2 \neq 0$

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

omena ovom uvjetu
$$\frac{x-3}{2} - 2 \ge 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2}\geqslant 0$$

$$-x - 7 = 0$$
 $x + 2 = 0$
 $x = -7$ $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

omena ovom uvjetu
$$\frac{x-3}{x+2} - 2 \geqslant 0$$

 $x + 2 \neq 0$

′uključeno u

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

 $+\infty$

Rješenje

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

′uključeno u

ovom uvjetu

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$x = -2$$

 $x + 2 \neq 0$

′uključeno u

ovom uvjetu

-x - 7

x+2

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2}-1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

′uključeno u

ovom uvjetu

-x - 7

x+2

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0 \qquad x + 2 = 0$$
$$x = -7 \qquad x = -2$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

ovom uvjetu

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

ovom uvjetu

-x - 7

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0 \qquad x + 2 = 0$$
$$x = -7 \qquad x = -2$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2}-2}-1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

ovom uvjetu

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

ovom uvjetu

x + 2

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$
$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x-7=0 \qquad x+2=0$$

$$x = -7$$
 $x = -2$

RJEŠENJE:

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0 \qquad x + 2 = 0$$
$$x = -7 \qquad x = -2$$

RJEŠENJE:

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

 $x + 2 \neq 0$

uključeno u

$$\frac{x-3-2(x+2)}{x+2} \geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0$$
 $x + 2 = 0$
 $x = -7$ $x = -2$

RJEŠENJE: $x \in [-7, -2\rangle$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

a) domena

$$\frac{x-3}{x+2}-2\geqslant 0$$

$$\frac{x-3-2(x+2)}{x+2}\geqslant 0$$

$$\frac{-x-7}{x+2} \geqslant 0$$

$$-x - 7 = 0 \qquad x + 2 = 0$$
$$x = -7 \qquad x = -2$$

$$x = -2$$

 $x + 2 \neq 0$

uključeno u

RJEŠENJE:
$$x \in [-7, -2)$$

$$D_f = [-7, -2\rangle$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$D_f = [-7, -2\rangle$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 - 1 = 0$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$D_f = [-7, -2\rangle$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2 - 1} = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$D_f = [-7, -2\rangle$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

 $f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$

$$D_f = [-7, -2\rangle$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$D_f = [-7, -2\rangle$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / (x+2)$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / (x+2)$$

$$x-3$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / (x+2)$$

$$x-3 =$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / (x+2)$$

$$x-3 = 3x+6$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2} - 2} = 1 / 4$$

$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / (x+2)$$

$$x-3 = 3x+6$$

$$-2x = 9$$

$$f(x) = \sqrt[4]{\frac{x-3}{x+2} - 2} - 1$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 = 1$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 = 1$$

$$\frac{x-3}{x+2}=3\left/\cdot\left(x+2\right)\right.$$

$$x - 3 = 3x + 6$$

$$-2x = 9$$

$$-2x = 9$$
$$x = -\frac{9}{2}$$

 $D_f = [-7, -2\rangle$

 $f(x) = \sqrt[4]{\frac{x-3}{x+2}} - 2 - 1$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 = 1$$

$$\frac{x-3}{x+2}-2=1$$

$$\frac{x-3}{x+2} = 3 / \cdot (x+2)$$

$$x - 3 = 3x + 6$$

$$x - 3 = 3x + 6$$
$$-2x = 9$$

$$-2x = 9$$

$$x = -\frac{9}{2}$$

 $f(x) = \sqrt[4]{\frac{x-3}{x+2}} - 2 - 1$

 $D_f = [-7, -2\rangle$

3/25

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 - 1 = 0$$

$$\sqrt[4]{\frac{x-3}{x+2}} - 2 = 1 / 4$$

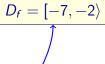
$$\frac{x-3}{x+2} - 2 = 1$$

$$\frac{1}{2} - 2 = 1$$

$$\frac{x-3}{x+2} = 3 / \cdot (x+2)$$
$$x-3 = 3x+6$$

$$-2x = 9$$

2/



 $f(x) = \sqrt[4]{\frac{x-3}{x+2}} - 2 - 1$

jest nultočka jer pripada domeni

3 / 25

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$
$$D_g = \mathbb{R}$$

b) domena

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2+x-x^2}$$

b) domena

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2+x-x^2}$$

$$\sqrt[5]{2+x-x^2} = 0$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$\sqrt[5]{2+x-x^2} = 0/5$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$\sqrt[5]{2 + x - x^2} = 0 / 5$$
$$-x^2 + x + 2 = 0$$

b) domena

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2+x-x^2}$$

$$\sqrt[5]{2+x-x^2} = 0 / 5$$

$$-x^2 + x + 2 = 0$$

$$x_{1,2} = \frac{-1 \pm \sqrt{1^2 - 4 \cdot (-1) \cdot 2}}{2 \cdot (-1)}$$

$$ax^{2} + bx + c = 0$$
$$x_{1,2} = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$

b) domena

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$\sqrt[5]{2 + x - x^2} = 0 / 5$$

$$-x^2 + x + 2 = 0$$

$$x_{1,2} = \frac{-1 \pm \sqrt{1^2 - 4 \cdot (-1) \cdot 2}}{2 \cdot (-1)}$$

$$x_{1,2} = \frac{-1 \pm 3}{-2}$$

$$ax^{2} + bx + c = 0$$
$$x_{1,2} = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$\sqrt[5]{2+x-x^2} = 0 / 5$$

$$-x^2 + x + 2 = 0$$

$$x_{1,2} = \frac{-1 \pm \sqrt{1^2 - 4 \cdot (-1) \cdot 2}}{2 \cdot (-1)}$$

$$x_{1,2} = \frac{-1 \pm 3}{-2}$$

$$x_1 = -1, \quad x_2 = 2$$

$$ax^{2} + bx + c = 0$$

$$x_{1,2} = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$

$$g(x) = (2 + x - x^2)^{\frac{1}{5}}$$

$$g(x) = \sqrt[5]{2 + x - x^2}$$

$$\sqrt[5]{2+x-x^2} = 0/5$$

$$-x^2 + x + 2 = 0$$

$$x_{1,2} = \frac{-1 \pm \sqrt{1^2 - 4 \cdot (-1) \cdot 2}}{2 \cdot (-1)}$$

$$x_{1,2} = \frac{-1 \pm 3}{-2}$$

$$x_{1} = -1, \quad x_{2} = 2$$

$$ax^{2} + bx + c = 0$$
$$x_{1,2} = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$

$$h(x) = \log\left(10^{x-1} - 5\right)$$

c) domena

 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

c) domena

 $10^{x-1} - 5 > 0$

 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$\log = \log_{10} h(x) = \log (10^{x-1} - 5)$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$
$$10^{x-1} > 5$$

```
c) domena
```

$$a^{\log_a x} = x$$

$$\log = \log_{10} h(x) = \log \left(10^{x-1} - 5\right)$$

$$10^{x-1} - 5 > 0$$
$$10^{x-1} > 5$$
$$10^{x-1} >$$

```
c) domena
```

 $a^{\log_a x} = x$ $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$
$$10^{x-1} > 5$$

$$10^{-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$\mathsf{log} = \mathsf{log}$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$
$$10^{x-1} > 5$$

$$^{1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

Ako je
$$a > 1$$

$$a^x > a^y \Leftrightarrow x > y$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

 $10^{x-1} > 5$
 $10^{x-1} > 10^{\log 5}$

Ako je
$$a > 1$$

 $a^x > a^y \Leftrightarrow x > y$

$$a^{\log_a x} = x$$
 $\log = \log_{10}$ $h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x - 1$$

Ako je
$$a > 1$$

Ako je
$$0 < a < 1$$

$$a^x > a^y \Leftrightarrow x < y$$

$$a^{\log_a x} = x$$

$$\log = \log_{10} h(x) = \log \left(10^{x-1} - 5\right)$$

$$10^{x-1} - 5 > 0$$

 $10^{x-1} > 5$

 $10^{x-1} > 10^{\log 5}$

 $x-1 \log 5$

 $a^x > a^y \Leftrightarrow x > y$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

 $10^{x-1} > 5$

 $10^{x-1} > 10^{\log 5}$

 $x - 1 > \log 5$

Ako je
$$a>1$$

 $a^x > a^y \Leftrightarrow x > y$

Ako je 0 < a < 1

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x - 1 > \log 5$$

$$x > 1 + \log 5$$

Ako je
$$a > 1$$

$$a^x > a^y \Leftrightarrow x > y$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$
 $10^{x-1} > 5$
 $10^{x-1} > 10^{\log 5}$
 $x - 1 > \log 5$
 $x > 1 + \log 5$
 $D_h = \langle 1 + \log 5, +\infty \rangle$

$$a^x > a^y \Leftrightarrow x > y$$

Ako je 0 < a < 1 $a^x > a^y \Leftrightarrow x < y$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = ig\langle 1 + \log 5, +\infty ig
angle$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \left\langle 1 + \log 5, +\infty \right
angle$$

Ako je
$$a > 1$$

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$3 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \langle 1 + \log 5, +\infty \rangle$$

$$\log (10^{x-1} - 5) = 0$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$-5 > 0$$

$$10^{x-1} > 5$$
$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

 $D_h = ig\langle 1 + \log 5, +\infty ig
angle$

nultočke

$$\log (10^{x-1} - 5) = 0$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

Ako je 0 < a < 1

$$\log_a x = b \longrightarrow x = a^b$$

$$\log = \log_{10}$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \langle 1 + \log 5, +\infty \rangle$$

$$\log (10^{x-1} - 5) = 0$$
$$10^{x-1} - 5 =$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \longrightarrow x = a^b$$

$$a^{\log_a x} = x \qquad \log = \log_{10} h(x) = \log \left(10^{x-1} - 5\right)$$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \langle 1 + \log 5, +\infty \rangle$$

$$\log \left(10^{x-1} - 5\right) = 0$$
$$10^{x-1} - 5 = 10^0$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \longrightarrow x = a^b$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = ig\langle 1 + \log 5, +\infty ig
angle$$

$$\log (10^{x-1} - 5) = 0$$
$$10^{x-1} - 5 = 10^{0}$$
$$10^{x-1} = 6$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \longrightarrow x = a^b$$

$$a^{\log_a x} = x \qquad \log = \log_{10} \qquad h(x) = \log \left(10^{x-1} - 5\right)$$

$$10^{x-1} - 5 > 0$$

$$-5 > 0$$
 $10^{x-1} > 5$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = ig\langle 1 + \log 5, +\infty ig
angle$$

$$\log (10^{x-1} - 5) = 0$$
$$10^{x-1} - 5 = 10^{0}$$

$$10^{x-1} = 6$$

Ako je
$$a > 1$$

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \longrightarrow x = a^b$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log = \log$$

$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$

$$10^{x-1} - 5 > 0$$

$$-5 > 0$$
 $10^{x-1} > 5$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \left<1 + \log 5, +\infty\right>$$

$$\log\left(10^{x-1}-5\right)=0$$

$$10^{x-1} - 5 = 10^0$$

$$10^{x-1}=6$$

$$x - 1 =$$

Ako je
$$a > 1$$

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \xrightarrow{} x = a^b$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log = \log$$

$$a^{\log_a x} = x \qquad \log = \log_{10} \qquad h(x) = \log \left(10^{x-1} - 5\right)$$

$$10^{x-1} - 5 > 0$$

$$10^{x-1} > 5$$

$$10^{x-1} > 10^{\log 5}$$

$$x-1 > \log 5$$

$$x > 1 + \log 5$$

$$D_h = \langle 1 + \log 5, +\infty \rangle$$

$$\log\left(10^{x-1}-5\right)=0$$

$$10^{x-1} = 6$$

 $10^{x-1} - 5 = 10^0$

$$x - 1 = \log 6$$

Ako je a > 1

$$a^x > a^y \Leftrightarrow x > y$$

$$a^x > a^y \Leftrightarrow x < y$$

$$\log_a x = b \longrightarrow x = a^b$$

$$a^x = b \longrightarrow x = \log_a b$$

c) domena
$$a^{\log 2}$$
 $10^{x-1} - 5 > 0$
 $10^{x-1} > 5$
 $10^{x-1} > 10^{\log 5}$
 $x - 1 > \log 5$

$$\log = \log_{10}$$

$$a^{\log_a x} = x$$

$$\log = \log_{10} h(x) = \log \left(10^{x-1} - 5\right)$$

Ako je
$$a > 1$$

$$a^{x} > a^{y} \Leftrightarrow x > y$$

$$x > 1 + \log 5$$

$$D_b = \langle 1 + \log 5, +\infty \rangle$$

Ako je
$$0 < a < 1$$

$$a^x > a^y \Leftrightarrow x < y$$

nultočke
$$D_h = \left\langle 1 + \log 5, +\infty \right\rangle$$

$$\log \left(10^{x-1} - 5 \right) = 0$$

$$10^{x-1} - 5 = 10^0$$

$$10^{x-1} = 6$$

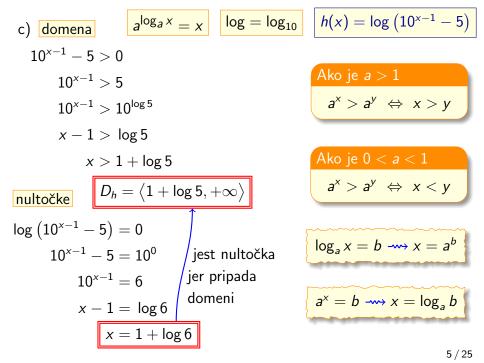
$$x - 1 = \log 6$$

$$x = 1 + \log 6$$

$$\log_a x = b \xrightarrow{} x = a^b$$

$$a^x = b \longrightarrow x = \log_a b$$

c) domena
$$a^{\log_a x} = x$$
 $\log = \log_{10} h(x) = \log (10^{x-1} - 5)$ $10^{x-1} - 5 > 0$ $10^{x-1} > 5$ $10^{x-1} > 10^{\log 5}$ $10^{x-1} > 10^{\log 5}$ $10^{x-1} > \log 5$ $10^{x-1} > \log 5$ Ako je $0 < a < 1$ $10^{x-1} > 10^{x-1} = 6$ $10^{x-1} = 6$ $10^$



$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

• x + 2 > 0

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

• x+2>0 cosposition x+2>0

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

- x + 2 > 0 cos $\log_{\frac{1}{2}}$
- $\log_{\frac{1}{2}}(x+2) \geqslant 0$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x + 2 > 0 \leftarrow zbog log_{\frac{1}{2}}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{}$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x + 2 > 0 \leftarrow zbog log_{\frac{1}{2}}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{}$$

 $x+2>0$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x+2>0$$
 cos $\log_{\frac{1}{2}}$

•
$$\log_{\frac{1}{2}}(x+2) \ge 0$$
 cm $z \log \sqrt{}$
 $x+2>0$
 $x>-2$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x + 2 > 0 \leftarrow zbog log_{\frac{1}{2}}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff \mathsf{zbog} \sqrt{}$$

$$x + 2 > 0$$

$$x > -2$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x + 2 > 0 \iff zbog log_{\frac{1}{2}}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$|x>-2|$$

 $\log_{\frac{1}{2}}(x+2)\geqslant 0$

$$\log_a a^x = x$$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_a a^x = x$$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$x + 2 > 0$$
 cos $\log_{\frac{1}{2}}$

•
$$\log_{\frac{1}{2}}(x+2) \ge 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant$$

$$\log_a a^x = x$$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$|x>-2|$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

Ako ie a > 1

 $\log_a a^x = x$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

 $\log_a x > \log_a y \iff x > y$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$$

Ako ie
$$a > 1$$

٦

 $\log_a \overline{a^x = x}$ $k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

 $\log_a x > \log_a y \iff x > y$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

|x>-2|

$$x + 2 > 0$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

Ako je
$$0 < a < 1$$

Ako ie
$$a > 1$$

 $\log_a x > \log_a y \iff x > y$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

d) domena

•
$$x + 2 > 0$$
 ** zbog $\log_{\frac{1}{2}}$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$$

$$x + 2$$

Ako je
$$0 < a < 1$$

Ako ie
$$a > 1$$

١

 $\log_a a^x = x$ $k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

 $\log_a x > \log_a y \iff x > y$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

$$x+2$$
 $\left(\frac{1}{2}\right)^0$

Ako je 0 < a < 1

Ako ie
$$a > 1$$

٦

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

 $\log_a x > \log_a y \iff x > y$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$$

$$x+2 \leqslant \left(\frac{1}{2}\right)^0$$

Ako je 0 < a < 1

Ako ie
$$a > 1$$

 $\log_a x > \log_a y \Leftrightarrow x > y$

 $\log_a a^x = x$ $k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x + 2 > 0$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$$

$$x+2 \leqslant \left(\frac{1}{2}\right)^0$$

$$x + 2 \leqslant 1$$

Ako je
$$0 < a < 1$$

Ako ie
$$a > 1$$

 $\log_a x > \log_a y \iff x > y$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff \mathsf{zbog} \sqrt{}$$

$$x + 2 > 0$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

$$x+2\leqslant \left(\frac{1}{2}\right)^0$$

$$x + 2 \leqslant 1$$

$$x \leq -1$$

Ako je 0 < a < 1

Ako ie
$$a > 1$$

 $\log_a x > \log_a y \Leftrightarrow x > y$

$$\log_a a^x = x$$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

d) domena

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff \mathsf{zbog} \sqrt{}$$

$$x + 2 > 0$$

$$x > -2$$

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

$$x+2\leqslant \left(\frac{1}{2}\right)^0$$

$$x + 2 \leqslant 1$$

$$< \leqslant -1$$

Ako je
$$0 < a < 1$$

 $\log_a x > \log_a y \iff x > y$

 $\log_{\frac{1}{2}}(x+2) \geqslant 0$

 $\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$

 $\log_a a^x = x \mid k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

d) domena

•
$$x + 2 > 0$$
 cos $\log_{\frac{1}{2}}$

•
$$\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff z \log \sqrt{-}$$

$$x+2>0$$

$$x + 2 \le \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \le \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \le 1$$

Ako je 0 < a < 1

 $\log_a x > \log_a y \Leftrightarrow x < y$

 $\log_a x > \log_a y \Leftrightarrow x > y$

$$\log_a a^x = x$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

d) domena

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

 $\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^{0}$ • $\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff \mathsf{zbog} \sqrt{}$

$$x + 2 > 0$$

$$x + 2 \le \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \le \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \le 1$$

$$x + 2 \le 1$$

$$x + 2 \le 1$$

Ako je 0 < a < 1

 $\log_a x > \log_a y \Leftrightarrow x < y$

 $\log_a x > \log_a y \Leftrightarrow x > y$

 $\log_a a^x = x \mid k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$

d) domena

$$\log_{\frac{1}{2}}(x+2)\geqslant 0$$

• $\log_{\frac{1}{2}}(x+2) \geqslant 0 \iff \mathsf{zbog} \sqrt{}$

$$\log_{\frac{1}{2}}(x+2) \geqslant \log_{\frac{1}{2}}\left(\frac{1}{2}\right)^0$$

$$x + 2 > 0$$

$$x > -2 \leftarrow$$

$$x + 2 \leqslant \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \leqslant \left(\frac{1}{2}\right)^{0}$$

$$x + 2 \leqslant 1$$

Ako je 0 < a < 1

 $\log_a x > \log_a y \Leftrightarrow x < y$

$$D_k = \langle -2, -1]$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$D_k = \langle -2, -1]$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)}=0$$

 $D_k = \langle -2, -1]$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)}=0/2$$

 $D_k = \langle -2, -1]$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)}=0/2$$

$$\log_{\frac{1}{2}}(x+2)=0$$

 $D_k = \langle -2, -1]$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0/2$$
 $\log_{\frac{1}{2}}(x+2) = 0$

$$D_k = \langle -2, -1]$$

 $\log_a x = b \longrightarrow x = a^b$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0 / 2$$

$$\log_{\frac{1}{2}}(x+2) = 0$$

$$x+2 = 0$$

$$D_k = \langle -2, -1]$$

 $\log_a x = b \longrightarrow x = a^b$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0 / 2$$

$$\log_{\frac{1}{2}}(x+2) = 0$$

$$x+2 = \left(\frac{1}{2}\right)^{0}$$

 $D_k = \langle -2, -1 \rangle$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

 $D_k = \langle -2, -1 \rangle$

nultočke

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0 / 2$$

$$\log_{\frac{1}{2}}(x+2) = 0$$

$$x+2 = \left(\frac{1}{2}\right)^{0}$$

$$x+2 = 1$$

 $\log_a x = b \xrightarrow{} x = a^b$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

 $\log_a x = b \longrightarrow x = a^b$

nultočke

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0 / 2$$

$$\log_{\frac{1}{2}}(x+2) = 0$$

$$x+2 = \left(\frac{1}{2}\right)^{0}$$

$$x+2 = 1$$

$$x = -1$$

$$D_k = \langle -2, -1]$$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)} = 0 / 2$$

$$\log_{\frac{1}{2}}(x+2) = 0$$

$$x+2 = \left(\frac{1}{2}\right)^{0}$$

$$x+2 = 1$$

$$x = -1$$

 $D_k = \langle -2, -1]$

 $\log_a x = b \longrightarrow x = a^b$

$$k(x) = \sqrt{\log_{\frac{1}{2}}(x+2)}$$

$$\sqrt{\log_{\frac{1}{2}}(x+2)}=0/^2$$

$$\log_{\frac{1}{2}}(x+2)=0$$

$$x+2=\left(\frac{1}{2}\right)^0$$

$$x + 2 = 1$$

$$x + z - 1$$

$$x = -1$$

 $D_k = \langle -2, -1]$

jest nultočka jer pripada domeni

 $\log_a x = b \longrightarrow x = a^b$

drugi zadatak

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x =$$

$$a^{x} = b \longrightarrow x = \log_{a} b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$



$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

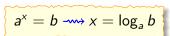
$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$



Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

nultočke od
$$f$$

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$
Ups!

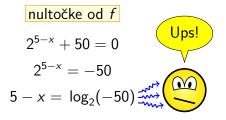
Ups!

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje

nultočke od f $2^{5-x} + 50 = 0$ $2^{5-x} = -50$ $5 - x = \log_2(-50)$ Ups!

Ups!

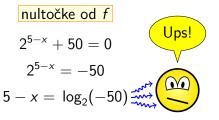
funkcija f nema nultočki

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

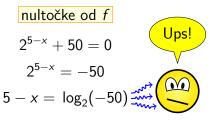
 $\frac{\text{nultočke od } g}{2^{5-x} - 50 = 0}$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

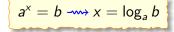
$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

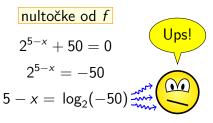
$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$



Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

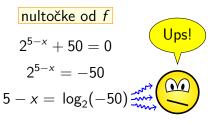
$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$
$$5 - x =$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

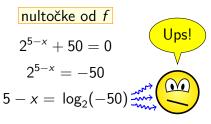
$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$
$$5 - x = \log_2 50$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

nultočke od g $2^{5-x} - 50 = 0$ $2^{5-x} = 50$ $5 - x = \log_2 50$

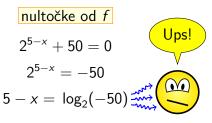
-x =

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

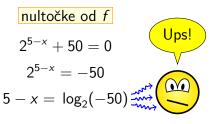
$$-x = -5 + \log_2 50$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

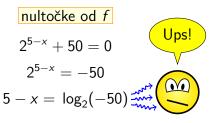
nultočke od g $2^{5-x} - 50 = 0$ $2^{5-x} = 50$ $5 - x = \log_2 50$ $-x = -5 + \log_2 50 / \cdot (-1)$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Rješenje



funkcija f nema nultočki

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

$\log_a x = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$

Rješenje

nultočke od f $2^{5-x} + 50 = 0$ $2^{5-x} = -50$ $5 - x = \log_2(-50)$ Upsl

funkcija f nema nultočki

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

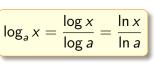
$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$a^x = b \longrightarrow x = \log_a b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.



Rješenje

nultočke od
$$f$$

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$

funkcija f nema nultočki

nultočke od g

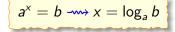
$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$x = 5 - \log_2 50$$

 $-x = -5 + \log_2 50 / \cdot (-1)$

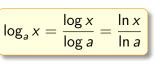
$$x = 5 - \frac{\log 50}{\log 2}$$



Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Ups!



Rješenje

nultočke od f

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5-x=\log_2(-50)$$

funkcija f nema nultočki

$$2^{5-x} - 50 = 0$$

$$2^{5-x}=50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$a^{x} = b \longrightarrow x = \log_{a} b$$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

Ups!

$\log_a x = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$

Rješenje

nultočke od f

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50) \xrightarrow{\text{const}}$$

funkcija f nema nultočki

$$2^{5-x} - 50 = 0$$

$$2^{5-x}=50$$

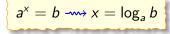
$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$



Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

$$\log_a x = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$$

Rješenje

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$

funkcija f nema nultočki

Ups!

egzaktna vrijednost

nultočke

nultočke od g

$$2^{5-x} - 50 = 0$$

$$2^{5-x}=50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$\Rightarrow x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

 $a^x = b \longrightarrow x = \log_a b$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

$\log_a x = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$

Rješenje

nultočke od f

$$2^{5-x} + 50 = 0$$

$$2^{5-x} = -50$$

$$5 - x = \log_2(-50)$$

funkcija f nema nultočki

Ups!

egzaktna vrijednost nultočke nultočke od g

$$2^{5-x} - 50 = 0$$

$$2^{5-x}=50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$\Rightarrow x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

 $a^{x} = b \longrightarrow x = \log_{a} b$

Odredite nultočke funkcija

$$f(x) = 2^{5-x} + 50$$
 i $g(x) = 2^{5-x} - 50$.

$$\log_a x = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$$

Rješenje

nultočke od f

$$2^{5-x} + 50 = 0$$

$$2^{5-x}=-50$$

$$5 - x = \log_2(-50)$$

funkcija f nema nultočki

nultočke od g

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

 $a^x = b \longrightarrow x = \log_a b$

aproksimacija nultočke na 5 decimala

egzaktna vrijednost

nultočke

Ups!

8 / 25

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
 $2^{5-x} = 50 / \log \log 2^{5-x}$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log 0$$
$$\log 2^{5-x} = 0$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log \log 2^{5-x} = \log 50$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log \log 2^{5-x} = \log 50$$
$$(5-x) \log 2$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log_a x^k = k \cdot \log_a x$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log \log 2^{5-x} = \log 50$$
$$(5-x) \log 2 = 0$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log_a x^k = k \cdot \log_a x$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$
$$2^{5-x} = 50 / \log \log 2^{5-x} = \log 50$$
$$(5-x) \log 2 = \log 50$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log_a x^k = k \cdot \log_a x$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log_a x^k = k \cdot \log_a x$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x =$$

$$a^x = b \longrightarrow x = \log_a b$$

$$\log_a x^k = k \cdot \log_a x$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

2. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

2. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

$$-x =$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

2. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

$$-x = -5 + \frac{\log 50}{\log 2}$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

2. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

$$-x = -5 + \frac{\log 50}{\log 2} / \cdot (-1)$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50$$

$$5 - x = \log_2 50$$

$$-x = -5 + \log_2 50 / \cdot (-1)$$

$$x = 5 - \log_2 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

$$-x = -5 + \frac{\log 50}{\log 2} / \cdot (-1)$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$a^x = b \longrightarrow x = \log_a b$$

1. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log_{2}$$

$$5 - x = \log_{2} 50$$

$$-x = -5 + \log_{2} 50 / (-1)$$

$$x = 5 - \log_{2} 50$$

$$x = 5 - \frac{\log 50}{\log 2}$$

$$x \approx -0.64386$$

2. način

$$2^{5-x} - 50 = 0$$

$$2^{5-x} = 50 / \log$$

$$\log 2^{5-x} = \log 50$$

$$(5-x) \log 2 = \log 50 / : \log 2$$

$$5-x = \frac{\log 50}{\log 2}$$

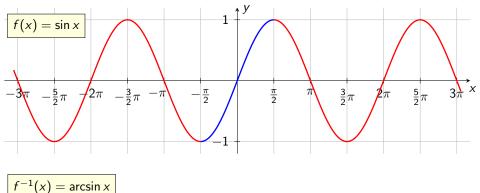
$$-x = -5 + \frac{\log 50}{\log 2} / \cdot (-1)$$

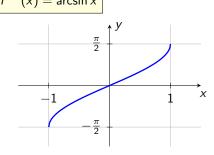
$$x = 5 - \frac{\log 50}{\log 2}$$

 $a^x = b \longrightarrow x = \log_a b$

Trigonometrijske i ciklometrijske

funkcije

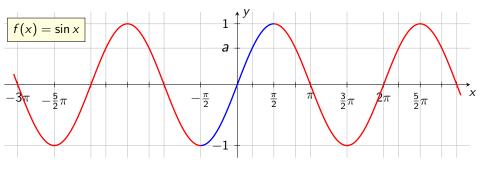




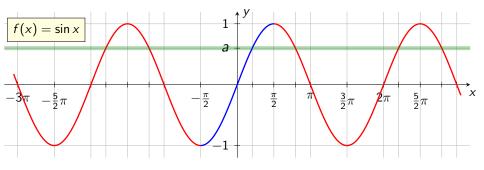
$$arcsin x = 0 \leftrightarrow x = 0$$

 $\sin x = 0 \iff x = k\pi, \ k \in \mathbb{Z}$

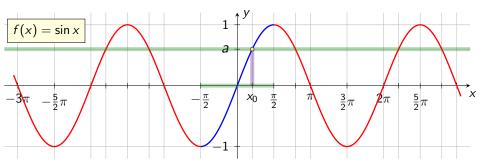
 $\arcsin x = 0 \Leftrightarrow x = 0$



Rješenja jednadžbe $\sin x = a \, \operatorname{za} \, |a| \leqslant 1$

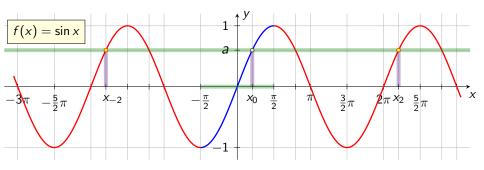


Rješenja jednadžbe $\sin x = a \, \operatorname{za} \, |a| \leqslant 1$



Rješenja jednadžbe $\sin x = a$ za $|a| \leqslant 1$

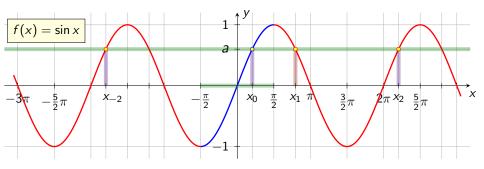
 $x_0 = \arcsin a$



Rješenja jednadžbe
$$\sin x = a \, \operatorname{za} \, |a| \leqslant 1$$

$$x_0 = \arcsin a$$

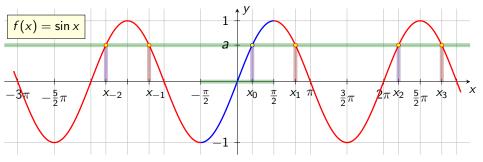
$$x_{2k}=x_0+2k\pi$$



Rješenja jednadžbe
$$\sin x = a \, \operatorname{za} \, |a| \leqslant 1$$

$$x_0 = \arcsin a$$

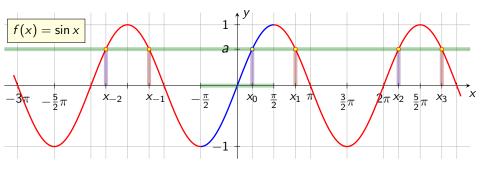
 $x_1 = \pi - \arcsin a$
 $x_{2k} = x_0 + 2k\pi$



Rješenja jednadžbe
$$\sin x = a \, \operatorname{za} \, |a| \leqslant 1$$

$$x_0 = \arcsin a$$

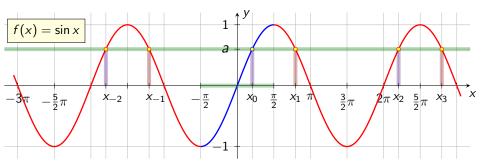
 $x_1 = \pi - \arcsin a$
 $x_{2k} = x_0 + 2k\pi$
 $x_{2k+1} = x_1 + 2k\pi$



Rješenja jednadžbe
$$\sin x = a$$
 za $|a| \leqslant 1$

•
$$x_k^{(1)} = \arcsin a + 2k\pi, \ k \in \mathbb{Z}$$

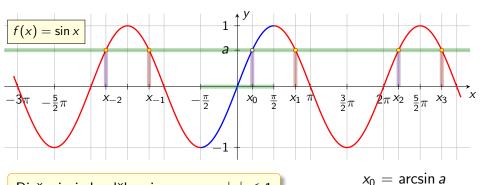
$$x_0 = \arcsin a$$
 $x_1 = \pi - \arcsin a$
 $x_k^{(1)} = x_{2k} = x_0 + 2k\pi$
 $x_{2k+1} = x_1 + 2k\pi$



Rješenja jednadžbe $\sin x = a \, \operatorname{za} \, |a| \leqslant 1$

- $x_k^{(1)} = \arcsin a + 2k\pi, \ k \in \mathbb{Z}$
- $x_k^{(2)} = \pi \arcsin a + 2k\pi, \ k \in \mathbb{Z}$

$$x_0 = \arcsin a$$
 $x_1 = \pi - \arcsin a$
 $x_k^{(1)} = x_{2k} = x_0 + 2k\pi$
 $x_k^{(2)} = x_{2k+1} = x_1 + 2k\pi$



Rješenja jednadžbe
$$\sin x = a \text{ za } |a| \leqslant 1$$

- $x_k^{(1)} = \arcsin a + 2k\pi, \ k \in \mathbb{Z}$
- $x_k^{(2)} = \pi \arcsin a + 2k\pi, \ k \in \mathbb{Z}$

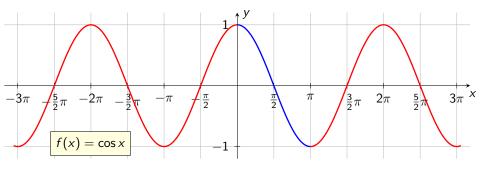
$$x_1 = \pi - \arcsin a$$

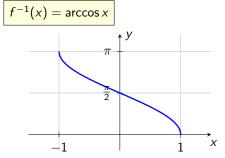
$$x_k^{(1)} = x_{2k} = x_0 + 2k\pi$$

$$x_k^{(2)} = x_{2k+1} = x_1 + 2k\pi$$

Možemo sva rješenja zapisati pomoću jedne formule

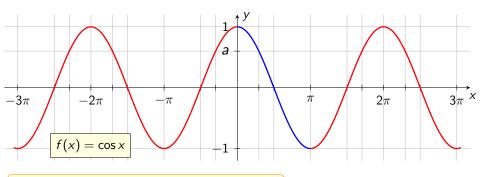
$$x_k = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$



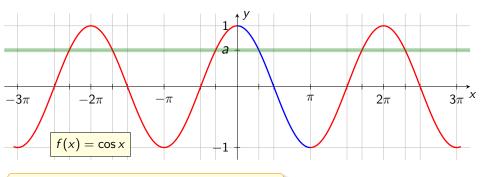


$$\cos x = 0 \iff x = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

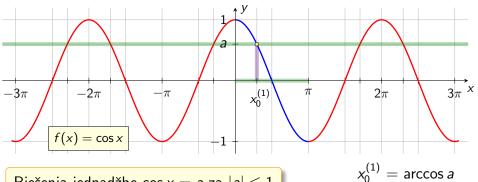
 $\arccos x = 0 \Leftrightarrow x = 1$



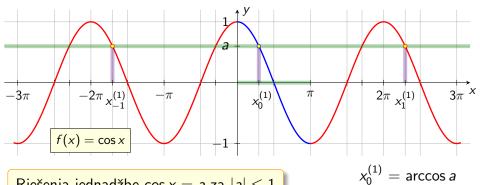
Rješenja jednadžbe $\cos x = a \, \operatorname{za} \, |a| \leqslant 1$



Rješenja jednadžbe $\cos x = a \, \operatorname{za} \, |a| \leqslant 1$

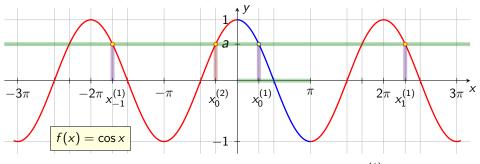


Rješenja jednadžbe $\cos x = a$ za $|a| \leqslant 1$



Rješenja jednadžbe
$$\cos x = a \, \operatorname{za} \, |a| \leqslant 1$$

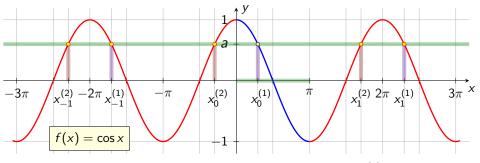
$$x_k^{(1)} = x_0^{(1)} + 2k\pi$$



Rješenja jednadžbe
$$\cos x = a$$
 za $|a| \leqslant 1$

$$x_0^{(1)} = \arccos a$$

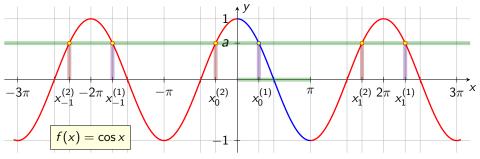
 $x_0^{(2)} = -\arccos a$
 $x_k^{(1)} = x_0^{(1)} + 2k\pi$



Rješenja jednadžbe
$$\cos x = a$$
 za $|a| \leqslant 1$

$$x_0^{(1)} = \arccos a$$

 $x_0^{(2)} = -\arccos a$
 $x_k^{(1)} = x_0^{(1)} + 2k\pi$
 $x_k^{(2)} = x_0^{(2)} + 2k\pi$

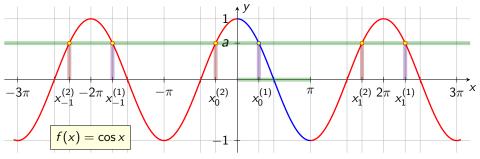


Rješenja jednadžbe
$$\cos x = a \, \operatorname{za} \, |a| \leqslant 1$$

•
$$x_k^{(1)} = \arccos a + 2k\pi, \ k \in \mathbb{Z}$$

$$x_0^{(1)} = \arccos a$$

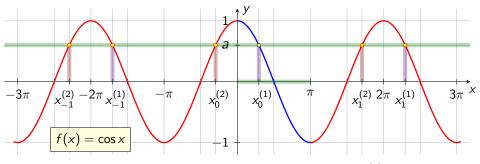
 $x_0^{(2)} = -\arccos a$
 $x_k^{(1)} = x_0^{(1)} + 2k\pi$
 $x_k^{(2)} = x_0^{(2)} + 2k\pi$



Rješenja jednadžbe
$$\cos x = a \, \operatorname{za} \, |a| \leqslant 1$$

- $x_k^{(1)} = \arccos a + 2k\pi, \ k \in \mathbb{Z}$
- $x_k^{(2)} = -\arccos a + 2k\pi, \ k \in \mathbb{Z}$

$$x_0^{(1)} = \arccos a$$
 $x_0^{(2)} = -\arccos a$
 $x_k^{(1)} = x_0^{(1)} + 2k\pi$
 $x_k^{(2)} = x_0^{(2)} + 2k\pi$



Rješenja jednadžbe
$$\cos x = a \, \operatorname{za} \, |a| \leqslant 1$$

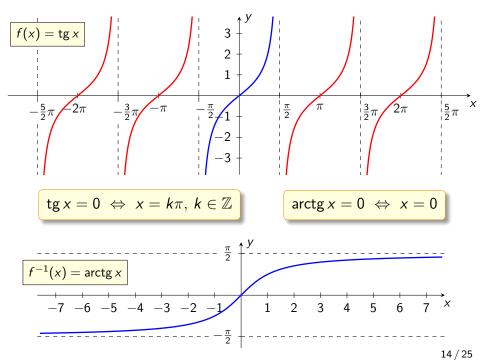
- $x_k^{(1)} = \arccos a + 2k\pi, \ k \in \mathbb{Z}$
- $x_k^{(2)} = -\arccos a + 2k\pi, \ k \in \mathbb{Z}$

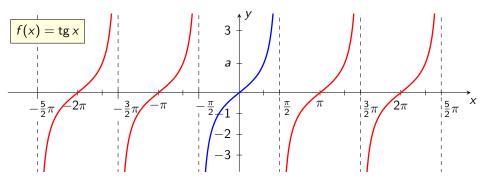
$$x_0^{(1)} = \arccos a$$

 $x_0^{(2)} = -\arccos a$
 $x_k^{(1)} = x_0^{(1)} + 2k\pi$
 $x_k^{(2)} = x_0^{(2)} + 2k\pi$

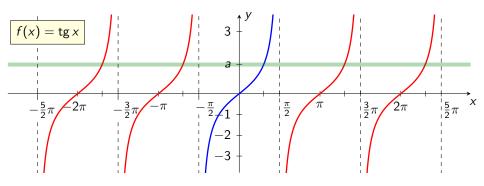
Bez indeksiranja možemo sva rješenja kratko zapisati

$$x = \pm \arccos a + 2k\pi, \ k \in \mathbb{Z}$$

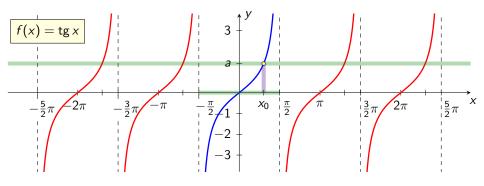




Rješenja jednadžbe tgx = a

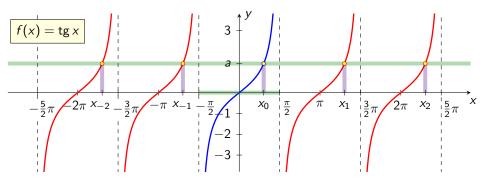


Rješenja jednadžbe tg x = a



Rješenja jednadžbe
$$tg x = a$$

• $x_0 = \operatorname{arctg} a$



Rješenja jednadžbe
$$tg x = a$$

- $x_0 = \operatorname{arctg} a$
- $x_k = x_0 + k\pi, \ k \in \mathbb{Z}$

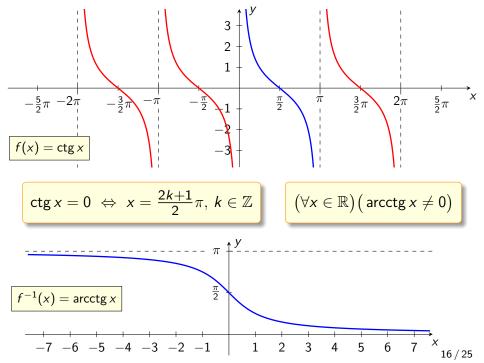
$$f(x) = \operatorname{tg} x$$

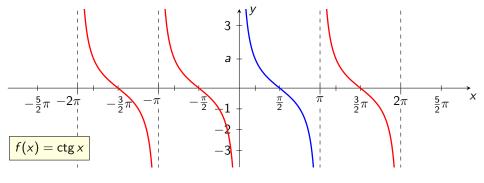
$$3 + \frac{5}{2}\pi - 2\pi x - 2 - \frac{3}{2}\pi - \pi x - 1 - \frac{\pi}{2} -$$

Rješenja jednadžbe
$$tg x = a$$

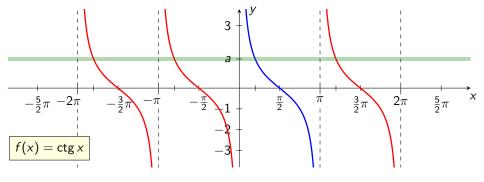
- $x_0 = \operatorname{arctg} a$
- $x_k = x_0 + k\pi$, $k \in \mathbb{Z}$

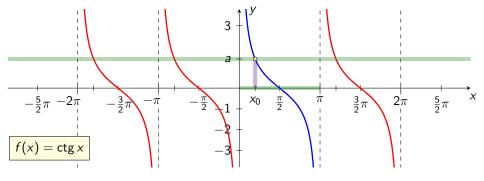
$$x_k = \operatorname{arctg} a + k\pi, \ k \in \mathbb{Z}$$



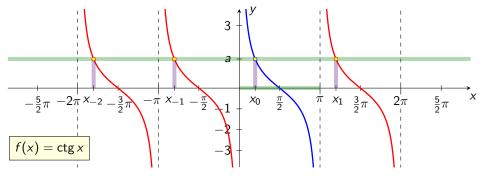


Rješenja jednadžbe ctg x = a

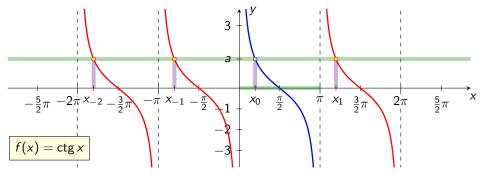




•
$$x_0 = \operatorname{arcctg} a$$



- $x_0 = \operatorname{arcctg} a$
- $x_k = x_0 + k\pi, \ k \in \mathbb{Z}$



- $x_0 = \operatorname{arcctg} a$
- $x_k = x_0 + k\pi$, $k \in \mathbb{Z}$

$$x_k = \operatorname{arcctg} a + k\pi, \ k \in \mathbb{Z}$$

treći zadatak

Zadatak 3

Odredite domenu i nultočke sljedećih funkcija:

a)
$$h(x) = \operatorname{ctg}(\pi x + 2)$$

b)
$$f(x) = \sqrt{\sin 3x + \frac{1}{2}}$$

c)
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

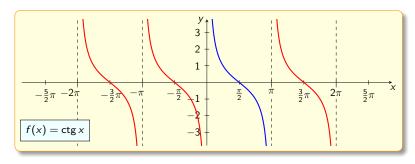
Rješenje

a) domena

$$h(x)=\operatorname{ctg}(\pi x+2)$$

a) domena

 $h(x) = \operatorname{ctg}(\pi x + 2)$

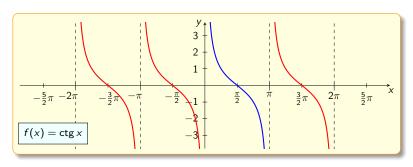


Rješenje

 $h(x)=\operatorname{ctg}\left(\pi x+2\right)$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$



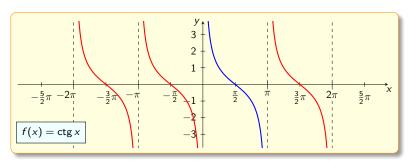
Rješenje

 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

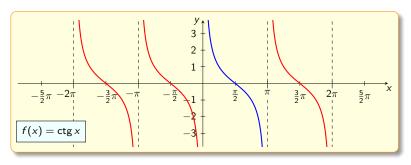
$$\pi x \neq k\pi - 2$$



 $h(x)=\operatorname{ctg}\left(\pi x+2\right)$

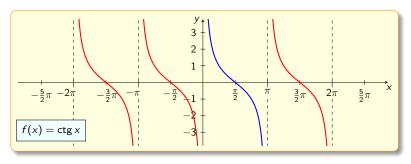
$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$



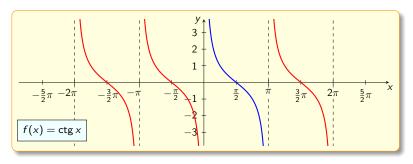
 $h(x)=\operatorname{ctg}\left(\pi x+2\right)$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$
$$\pi x \neq k\pi - 2 / : \pi$$
$$x \neq \frac{k\pi - 2}{\pi}$$



$h(x) = \operatorname{ctg}(\pi x + 2)$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$
$$\pi x \neq k\pi - 2 / : \pi$$
$$x \neq \frac{k\pi - 2}{\pi}$$
$$x \neq k - \frac{2}{\pi}$$



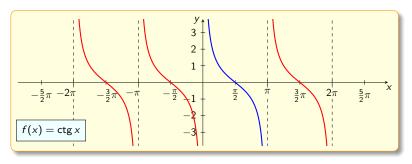
$h(x) = \operatorname{ctg}(\pi x + 2)$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$



$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

$$\int$$
 ekvivalentni zapis $D_h = igcup_{k \in \mathbb{Z}} \left\langle k - rac{2}{\pi}, \ k + 1 - rac{2}{\pi}
ight
angle$

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h \stackrel{\downarrow}{=} \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h \stackrel{\checkmark}{=} \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

$$\operatorname{ctg}(\pi x + 2) = 0$$

 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) <mark>domena</mark>

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$+2 \neq k\pi, \ k \in \mathbb{Z}$$

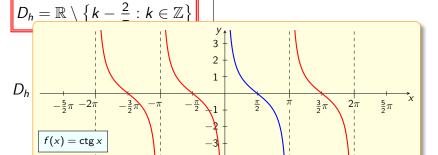
$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

nultočke $ctg(\pi x)$

 $\operatorname{ctg}\left(\pi x+2\right)=0$



 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) <mark>domena</mark>

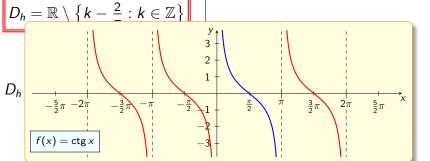
$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$ctg(\pi x + 2) = 0$$
$$\pi x + 2 =$$



 $h(x) = \operatorname{ctg}(\pi x + 2)$

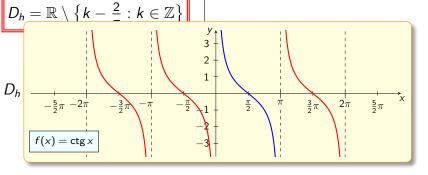
a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$
$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$ctg(\pi x + 2) = 0$$
$$\pi x + 2 = \frac{2k+1}{2}\pi$$



 $h(x) = \operatorname{ctg}(\pi x + 2)$

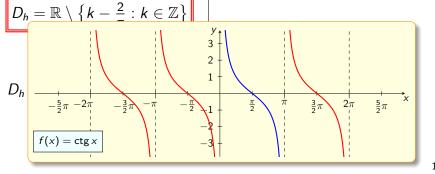
a) <mark>domena</mark>

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$
$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$\operatorname{ctg}(\pi x + 2) = 0$$
$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$



 D_h

 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

 $\frac{\text{nultočke}}{\text{ctg}(\pi x + 2) = 0}$

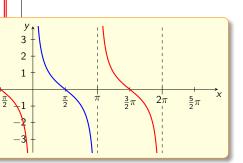
$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x =$$

 $D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$

 $-\frac{5}{2}\pi$ -2π

 $f(x) = \operatorname{ctg} x$



19 / 25

 D_h

 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) domena

 $\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

 $\operatorname{ctg}(\pi x + 2) = 0$

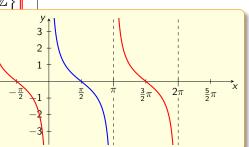
$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x = \frac{2k+1}{2}\pi - 2$$

 $D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$

 $-\frac{5}{2}\pi$ -2π

 $f(x) = \operatorname{ctg} x$



 $h(x) = \operatorname{ctg}(\pi x + 2)$

a) <mark>domena</mark>

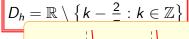
$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

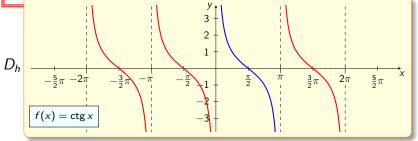
$$\pi x \neq k\pi - 2 / : \pi$$
$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$\operatorname{ctg}(\pi x + 2) = 0$$

$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$
$$\pi x = \frac{2k+1}{2}\pi - 2 / \pi$$





a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h = \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

$$ctg(\pi x + 2) = 0$$

$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x = \frac{2k+1}{2}\pi - 2 / : \pi$$

$$x = \frac{2k+1}{2} - \frac{2}{\pi}$$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h = \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

$$\operatorname{ctg}(\pi x + 2) = 0$$

$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x = \frac{2k+1}{2}\pi - 2 / : \pi$$

$$x = \frac{2k+1}{2} - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h = \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

$$ctg(\pi x + 2) = 0$$

$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x = \frac{2k+1}{2}\pi - 2 / : \pi$$

$$x = \frac{2k+1}{2} - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

a) domena

$$\pi x + 2 \neq k\pi, \ k \in \mathbb{Z}$$

$$\pi x \neq k\pi - 2 / : \pi$$

$$x \neq \frac{k\pi - 2}{\pi}$$

$$x \neq k - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

$$D_h = \mathbb{R} \setminus \left\{ k - \frac{2}{\pi} : k \in \mathbb{Z} \right\}$$

ekvivalentni zapis

$$D_h = \bigcup_{k \in \mathbb{Z}} \left\langle k - \frac{2}{\pi}, \ k + 1 - \frac{2}{\pi} \right\rangle$$

nultočke

$$\operatorname{ctg}(\pi x + 2) = 0$$

$$\pi x + 2 = \frac{2k+1}{2}\pi, \ k \in \mathbb{Z}$$

$$\pi x = \frac{2k+1}{2}\pi - 2 / : \pi$$

$$x = \frac{2k+1}{2} - \frac{2}{\pi}, \ k \in \mathbb{Z}$$

jesu nultočke ier pripadaju dom

jer pripadaju domeni

$$f(x) = \sqrt{\sin 3x + \frac{1}{2}}$$

$$f(x) = \sqrt{\sin 3x + \frac{1}{2}}$$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$f(x) = \sqrt{\sin 3x + \frac{1}{2}}$$

Domena

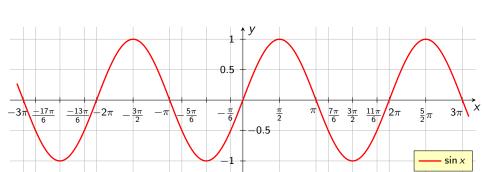
$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

Domena
$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

b)



 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

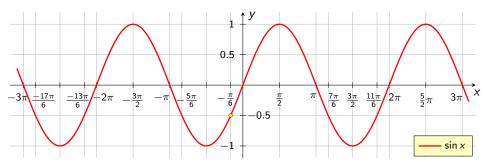
20 / 25

Domena
$$\sin 3x + \frac{1}{2} \ge 0$$
$$\sin 3x \ge -\frac{1}{2}$$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

20 / 25

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6}$



$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6} \qquad \pi - \left(-rac{\pi}{6}
ight) = rac{7}{6}\pi$

 $-2\pi \quad -\frac{3\pi}{2} \quad -\pi$

 $\frac{5\pi}{6}$

Domena

 $\frac{-17\pi}{6}$

20 / 25

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6} \qquad \pi - \left(-rac{\pi}{6}
ight) = rac{7}{6}\pi$

 $-2\pi \quad -\frac{3\pi}{2} \quad -\pi$

 $\frac{5\pi}{6}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6} \qquad \pi - \left(-rac{\pi}{6}
ight) = rac{7}{6}\pi$

 $-2\pi \quad -\frac{3\pi}{2} \quad -\pi$

 $\frac{5\pi}{6}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$1 \uparrow^{y} \qquad 3x \in [-\frac{\pi}{6}, \frac{7}{6}\pi]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $-2\pi \quad -\frac{3\pi}{2} \quad -\pi$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$1 \uparrow^{y} \qquad 3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi\right]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $-\frac{3\pi}{2}$

 -2π

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$1 \uparrow^{y} \qquad 3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi\right]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6} \qquad \pi - \left(-rac{\pi}{6}
ight) = rac{7}{6}\pi$

 $-2\pi \quad -\frac{3\pi}{2}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi\right]$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi\right]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 -2π $-\frac{3\pi}{2}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi\right]$$

$$1 \uparrow y$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi\right]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 -2π $-\frac{3\pi}{2}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi\right]$$

$$1 \uparrow^{y}$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi\right]$$

 $\frac{5\pi}{6}$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 -2π $-\frac{3\pi}{2}$

Domena

 $\frac{-17\pi}{6}$



 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Domena
$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$$
 $3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$ $3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

20 / 25

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi \right]$$
 $3x \in \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi \right]$ $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$ $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$ $3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$

sin *x*

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Jomena
$$3x \in \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right]$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$0.5$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$$

$$0.5$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$$

$$0.5$$

 $\sin x$ 20 / 25

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Domena

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right]$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$0.5$$

 $\frac{3\pi}{2} \frac{11\pi}{6} 2\pi$

 $\sin x$ 20 / 25

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $-\frac{3\pi}{2}$ -2π

 $\frac{5\pi}{6}$

Domena

 $\frac{-17\pi}{6}$

 $\sin x$ 20 / 25

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \Rightarrow -\frac{1}{2}$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$0.5$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$0.5$$

$$3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$$

$$0.5$$

$$0.5$$

$$0.5$$

$$0.5$$

$$0.5$$

sin *x* 20 / 25

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena

 $\frac{-17\pi}{6}$

 $-2\pi = \frac{3\pi}{2}$

 $\frac{5\pi}{6}$

 $\sin x$

 $\frac{3\pi}{2} \frac{11\pi}{6} 2\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \geqslant -\frac{1}{2}$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $-\frac{3\pi}{2}$

 $\frac{5\pi}{6}$

 -2π

Domena

 $\frac{-17\pi}{6}$

 $\sin x$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $\frac{3\pi}{2} \frac{11\pi}{6} 2\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \neq \frac{1}{2} \geqslant 0$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{1}{3}\pi + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]}{0.5} \right]$
 $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$

sin *x*

 $\arcsin\left(-rac{1}{2}
ight) = -rac{\pi}{6} \qquad \pi - \left(-rac{\pi}{6}
ight) = rac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \neq \frac{1}{2} \geqslant 0$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $3x \in \left[-\frac{\pi}{18}, -\frac{5}{6}\pi \right]$
 $3x \in \left[-\frac{\pi}{18}, -\frac{5}{6}\pi \right]$
 $3x \in \left[-\frac{\pi}{18}, -\frac{5}{6}\pi \right]$
 $3x \in \left[-\frac{\pi}{6}, \frac{7}{6}\pi \right]$

sin *x*

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x + \frac{1}{2} \ge 0$
 $\sin 3x \ge -\frac{1}{2}$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$

sin *x*

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6} \qquad \pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \neq \frac{1}{2} \geqslant 0$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{\pi}{18}\pi \right]$
 $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$

sin *x*

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x \neq \frac{1}{2} \geqslant 0$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$
 $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$

sin *x*

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$

$$\sin 3x + \frac{1}{2} \geqslant 0$$

$$\sin 3x \geqslant -\frac{1}{2}$$

$$x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$$

$$x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$$

$$3x \in \left[-\frac{3\pi}{6}\pi, -\frac{5\pi}{6}\pi \right]$$

20 / 25

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6} \qquad \pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Domena
$$3x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{6} + 2k\pi, \frac{7}{6}\pi + 2k\pi \right] / : 3$$
 $\sin 3x + \frac{1}{2} \ge 0$
 $\sin 3x \ge -\frac{1}{2}$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[-\frac{\pi}{18} + \frac{2}{3}k\pi, \frac{7}{18}\pi + \frac{2}{3}k\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$
 $x \in \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$
 $3x \in \left[-\frac{13}{6}\pi, -\frac{5}{6}\pi \right]$

20 / 25

 $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6} \qquad \pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $\sin 3x + \frac{1}{2} = 0$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

$$\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi$

$$\sin 3x = -\frac{1}{2}$$

 $\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/:3$

 $\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

x =

$$x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\overline{S} = 0/2$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sqrt{\frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^k}{3}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x = -\frac{1}{2}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/:3$

 $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$

 $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$

$$\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$ $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$

x =

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

$$\sin 3x + \frac{1}{2} = 0
\sin 3x = -\frac{1}{2}
x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}
x = \frac{18}{18}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$

 $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$

 $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^k \arcsin(-\frac{1}{2}) + k\pi / : 3}{3}$$

$$x = \frac{(-1)^k \cdot (-1)^k \pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

x =

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

$$\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^k \arcsin(-\frac{1}{2}) + k\pi / : 3}{3}$$

$$x = \frac{(-1)^k \cdot (-1)^k \pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

 $x = \frac{\pi}{18}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

 $x = \frac{(-1)^{k+1}}{18}\pi$

$$\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

$$\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/:3$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^{k} \arcsin(-\frac{1}{2}) + k\pi /: 3}{3}$$

$$x = \frac{(-1)^{k} \cdot -\pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^{k} \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

x =

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

$$\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$3x = (-1)^{k} \arcsin \left(-\frac{1}{2}\right) + k\pi /: 3$$

$$x = \frac{(-1)^{k}}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^{k} \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

 $\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{(-1)^{k} \arcsin(-\frac{1}{2}) + k\pi /: 3}{3}$$

$$x = \frac{(-1)^{k} \cdot -\pi}{6} + \frac{k\pi}{3}$$

$$x = \frac{(-1)^{k} \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

 $x = \frac{6k}{18}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

$\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$3x = (-1)^{k} \arcsin \left(-\frac{1}{2}\right) + k\pi / : 3$$

$$x = \frac{(-1)^{k}}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$(-1)^{k} \cdot (-1) = -k\pi$$

 $x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

 $x = \frac{6k + (-1)^{\kappa + 1}}{12}\pi$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

$\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$3x = (-1)^{k} \arcsin \left(-\frac{1}{2}\right) + k\pi / : 3$$

$$x = \frac{(-1)^{k}}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$(-1)^{k} \cdot (-1) = -k\pi$$

$$\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

21/25

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$

 $x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^{2}$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$3x = (-1)^{k} \arcsin \left(-\frac{1}{2}\right) + k\pi /: 3$$

$$x = \frac{(-1)^{k}}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

$$(-1)^{k} \cdot (-1) = -k\pi$$

 $x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{3}$

 $x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$

 $x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$

$$\sin x = a \Leftrightarrow x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

Nultočke

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke
$$\sqrt{\sin 3x + \frac{1}{2}} = 0 /^2 \qquad 3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi / : 3$$

 $x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$

 $x = \frac{(-1)^{\kappa+1}}{18}\pi + \frac{k\pi}{3}$

 $x = \frac{(-1)^{\kappa} \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{2}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $\sin 3x + \frac{1}{2} = 0$

 $\sin 3x = -\frac{1}{2}$

 $D_f = \bigcup_{k \in \mathbb{Z}} \left\lfloor \frac{12k-1}{18} \pi, \frac{12k+7}{18} \pi \right\rfloor$

$$x=\frac{6k+(-1)^{k+1}}{18}\pi,\ k\in\mathbb{Z}$$

Nultočke
$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$$

$$x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $\sin 3x = -\frac{1}{2}$

 $D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18} \pi, \frac{12k+7}{18} \pi \right]$

jesu nultočke jer pripadaju domeni
$$x=rac{6k+(-1)^{k+1}}{18}\pi, \ k\in\mathbb{Z}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{2}$

 $x = \frac{(-1)^{\kappa+1}}{18}\pi + \frac{k\pi}{3}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \, \frac{12k+7}{18}\pi \right]$$

$$x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$
 jesu nultočke jer pripadaju domeni
$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \, k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \, \frac{12k+7}{18}\pi \right]$$

$$x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$
 jesu nultočke jer pripadaju domeni
$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \, k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$x = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$
 jesu nultočke jer pripadaju domeni
$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot 2s + (-1)^{2s+1}}{10} \pi$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot 2s + (-1)^{2s+1}}{18} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot 2s + (-1)^{2s+1}}{18} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \, k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \, k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot 2s + (-1)^{2s+1}}{18} \pi$

 $x = \frac{12s + (-1)^{\text{neparan}}}{18} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{12s - 1}{18}\pi$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k - 1}{18} \pi, \frac{12k + 7}{18} \pi \right]$$

$$y = \frac{(-1)^{k+1}}{18} \pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18} \pi, \quad k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18} \pi, \quad k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0/2$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot 2s + (-1)^{2s+1}}{18} \pi$

 $x = \frac{12s + (-1)^{\mathsf{neparan}}}{18} \pi$

Nultočke
$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$\sum_{k \in \mathbb{Z}} \frac{12k-1}{18} \pi$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $\implies k$ paran: k=2s za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

18

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $x = \frac{6 \cdot}{}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

riangleright k neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{10} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{18} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$x = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{18} \pi$

21/25

 $x = \frac{12s + 6}{18}$

$$\sin 3x = -\frac{1}{2}$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18}\pi, \frac{12k+7}{18}\pi \right]$$

$$y = \frac{(-1)^{k+1}}{18}\pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18}\pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{18} \pi$

 $x = \frac{12s + 6 + (-1)^{\mathsf{paran}}}{18} \pi$

$$\sin 3x = -\frac{1}{2}$$

$$x = \frac{12s + 7}{18}\pi$$

$$D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k - 1}{18} \pi, \frac{12k + 7}{18} \pi \right]$$

$$y = \frac{(-1)^{k+1}}{18} \pi + \frac{k\pi}{3}$$

$$y = \frac{6k + (-1)^{k+1}}{18} \pi, \ k \in \mathbb{Z}$$

$$y = \frac{6k + (-1)^{k+1}}{18} \pi, \ k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0/2$

 $\sin 3x + \frac{1}{2} = 0$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{18} \pi$

21/25

 $x = \frac{12s + 6 + (-1)^{\text{paran}}}{18} \pi$

$$\sin 3x + \frac{1}{2} = 0$$

$$\sin 3x = -\frac{1}{2}$$

$$\sum_{k \in \mathbb{Z}} \left[\frac{12k-1}{18} \pi, \frac{12k+7}{18} \pi \right]$$

$$x = \frac{12s+6+(-1)^{paran}}{18} \pi$$

$$x = \frac{12s+7}{18} \pi$$

$$x = \frac{(-1)^{k+1}}{18} \pi + \frac{k\pi}{3}$$

$$x = \frac{6k+(-1)^{k+1}}{18} \pi, k \in \mathbb{Z}$$

$$x = \frac{6k+(-1)^{k+1}}{18} \pi, k \in \mathbb{Z}$$

b) $\arcsin(-\frac{1}{2}) = -\frac{\pi}{6}$ $\pi - (-\frac{\pi}{6}) = \frac{7}{6}\pi$ $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

Nultočke

 $\sqrt{\sin 3x + \frac{1}{2}} = 0/2$

 $\implies k$ neparan: k=2s+1 za neki $s\in\mathbb{Z}$

 $x = \frac{6 \cdot (2s+1) + (-1)^{2s+2}}{18} \pi$

Nultočke
$$\sqrt{\sin 3x + \frac{1}{2}} = 0 / 2$$

$$\sin 3x + \frac{1}{2} = 0$$

$$3x = (-1)^k \arcsin\left(-\frac{1}{2}\right) + k\pi/: 3$$

$$x = \frac{(-1)^k}{3} \cdot \frac{-\pi}{6} + \frac{k\pi}{3}$$

b) $\arcsin\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$ $\pi - \left(-\frac{\pi}{6}\right) = \frac{7}{6}\pi$

 $\sin 3x = -\frac{1}{2}$

 $D_f = \bigcup_{k \in \mathbb{Z}} \left[\frac{12k-1}{18} \pi, \frac{12k+7}{18} \pi \right]$

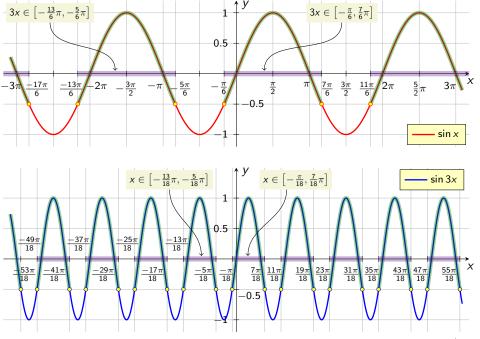
jesu nultočke jer pripadaju domeni
$$x=rac{6k+(-1)^{k+1}}{18}\pi, \ k\in\mathbb{Z}$$

 $\sin x = a \iff x = (-1)^k \arcsin a + k\pi, \ k \in \mathbb{Z}$

 $f(x) = \sqrt{\sin 3x + \frac{1}{2}}$

 $x = \frac{(-1)^k \cdot (-1) \cdot \pi}{18} + \frac{k\pi}{2}$

 $x = \frac{(-1)^{\kappa+1}}{18}\pi + \frac{k\pi}{3}$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

c) Domena
$$\implies x^2 - 3 \geqslant -1$$
 $\implies x^2 - 3 \leqslant 1$

 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

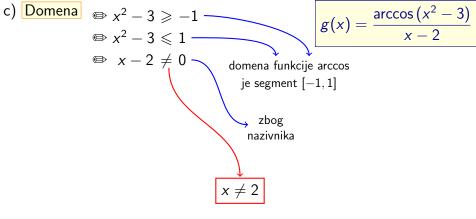
c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$ domena funkcije arccos je segment $[-1, 1]$

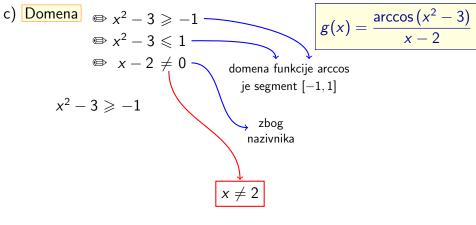
c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1, 1]$

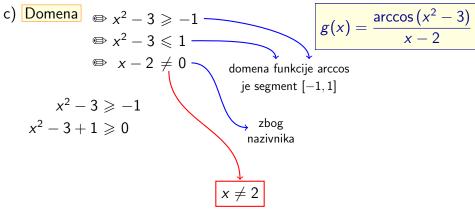
Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \leqslant 1$
 $\Rightarrow x - 2 \neq 0$
domena funkcije arccos
je segment $[-1,1]$
zbog
nazivnika

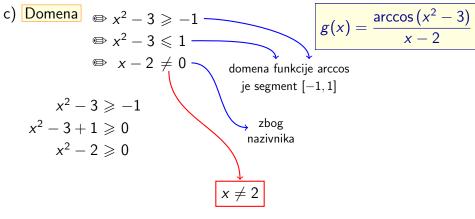
c) Domena $\Rightarrow x^2 - 3 \geqslant -1$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \leqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1, 1]$ $\Rightarrow x \neq 2$



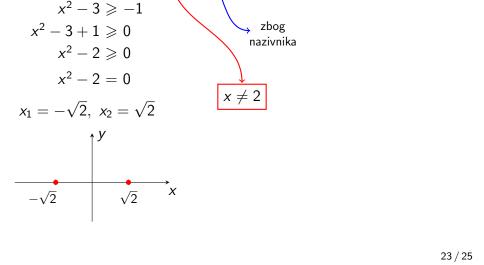






c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \leqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1, 1]$ $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x^2 - 3 \Rightarrow -1$ $\Rightarrow x^2 - 3 \Rightarrow 1 \Rightarrow 0$ $\Rightarrow x^2 - 2 \Rightarrow 0$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1, 1]$ $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x^2 - 3 \Rightarrow -1$ $\Rightarrow x^2 - 3 \Rightarrow -1$ $\Rightarrow x^2 - 3 \Rightarrow 1 \Rightarrow 0$ $\Rightarrow x^2 - 2 \Rightarrow 0$

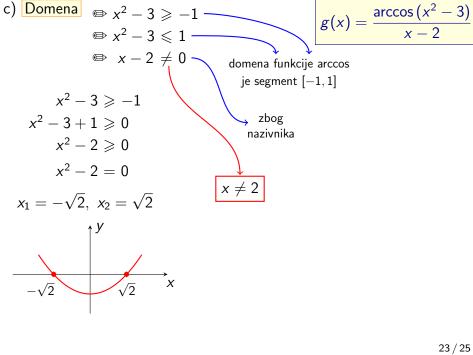


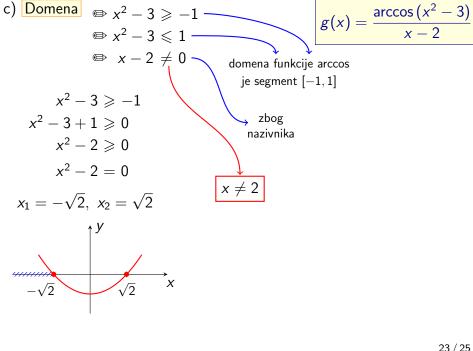
domena funkcije arccos je segment [-1, 1]

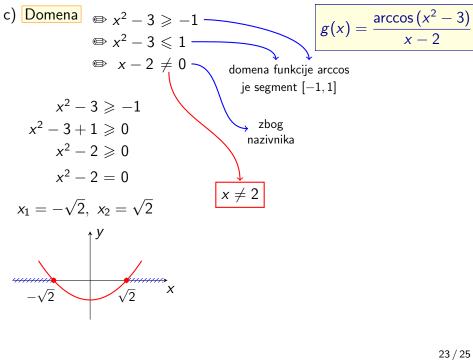
 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

c) Domena $\Rightarrow x^2 - 3 \geqslant -1$

 $x^2 - 3 \leqslant 1$ $x - 2 \neq 0$







$$x^2-3+1\geqslant 0$$
 $x^2-2\geqslant 0$ $x^2-2=0$ $x\neq 2$ $x\neq 2$ $x\neq 2$ $x\neq 3$ x

domena funkcije arccos je segment [-1, 1]

 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

c) Domena $\Rightarrow x^2 - 3 \geqslant -1$

 $x^2 - 3 \ge -1$

 $x^2 - 3 \leqslant 1$ $x - 2 \neq 0$

 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

c) Domena $\Rightarrow x^2 - 3 \geqslant -1$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \leqslant 1$
 $\Rightarrow x - 2 \neq 0$
domena funkcije arccos
 $\Rightarrow x^2 - 3 \geqslant -1$
 $\Rightarrow x - 2 \neq 0$
 $\Rightarrow x^2 - 3 \Rightarrow -1$
 $\Rightarrow x^2 - 3 \Rightarrow -1$
 $\Rightarrow x^2 - 3 \Rightarrow 1$
 $\Rightarrow x = 2 \Rightarrow 0$
 $\Rightarrow x = -\sqrt{2}, x_2 = \sqrt{2}$
 $\Rightarrow x = 2 \Rightarrow 0$
 $\Rightarrow x = 2 \Rightarrow$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \Rightarrow 1$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \Rightarrow 1$ $\Rightarrow x^2 - 4 \Rightarrow 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \Rightarrow 1$ $\Rightarrow x^2 - 4 \Rightarrow 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \leqslant 1$
 $\Rightarrow x - 2 \neq 0$
domena funkcije arccos
je segment $[-1,1]$

$$x^2 - 3 \geqslant -1$$

$$x^2 - 3 \geqslant 1$$

$$x^2 - 3 \Rightarrow 1 \Rightarrow 0$$

$$x^2 - 2 \geqslant 0$$

$$x^2 - 2 \geqslant 0$$

$$x^2 - 2 \Rightarrow 0$$

$$x^2 - 4 \leqslant 0$$

$$x^2 - 4 \leqslant 0$$

$$x \neq 2$$

$$x = -\sqrt{2}$$

$$x \neq 2$$

$$x \neq 3 \leqslant 1$$

$$x^2 - 3 \leqslant 1$$

$$x^2 - 3 - 1 \leqslant 0$$

$$x^2 - 4 \leqslant 0$$

$$x^2 - 4 = 0$$

$$x \neq 2$$

$$x \neq 2$$

$$x \neq 3 \leqslant 1$$

$$x^2 - 3 - 1 \leqslant 0$$

$$x^2 - 4 \leqslant 0$$

$$x \neq 2$$

$$x \neq 3 \leqslant 1$$

$$x \neq 3 \leqslant 1$$

$$x \neq 4 \leqslant 0$$

$$x \Rightarrow 4 \leqslant 0$$

$$x \neq 4 \leqslant 0$$

$$x \Rightarrow 4 \leqslant$$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x^2 - 4 \geqslant 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x^2 - 4 \geqslant 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x^2 - 4 \geqslant 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x^2 - 4 \geqslant 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x^2 - 4 \geqslant 0$ $\Rightarrow x^2 -$

c) Domena
$$\Rightarrow x^2 - 3 \geqslant -1$$
 $\Rightarrow x^2 - 3 \geqslant -1$ $\Rightarrow x^2 - 3 \geqslant 1$ $\Rightarrow x - 2 \neq 0$ domena funkcije arccos je segment $[-1,1]$ $\Rightarrow x^2 - 3 \Rightarrow 1$ $\Rightarrow x^2 - 3 \Rightarrow 1 \Rightarrow 0$ $\Rightarrow x^2 - 2 \Rightarrow 0$ $\Rightarrow x^2 - 2 \Rightarrow 0$ $\Rightarrow x^2 - 4 \Rightarrow 0$ $\Rightarrow x$

 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

$$x^2 - 3 \le 1$$

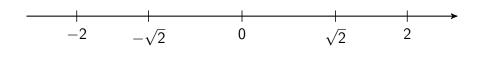
 $x^2 - 3 \ge -1$

 $\Rightarrow x - 2 \neq 0$

 $\implies x^2 - 3 \le 1$

Domena
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$x - 2 \neq 0$$
presjek rješenja



$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x-2\neq 0$$

 $\implies x^2 - 3 \le 1$

presjek rješenja

$$x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1$$

$$\Rightarrow x-2\neq 0$$

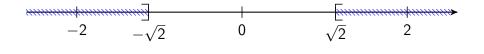
$$-\infty$$
 \rangle

 $g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1 \xrightarrow{} x \in [-2, 2]$$

$$\Rightarrow x-2\neq 0$$



$$\Rightarrow x^2 - 3 \leqslant 1 - x \leqslant [-2, 2]$$

$$\Rightarrow x-2 \neq 0$$

$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1 \xrightarrow{} x \in [-2, 2]$$

$$\implies x-2\neq 0$$

$$-2 \quad -\sqrt{2} \qquad 0 \qquad \sqrt{2} \qquad 2$$

$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1 \longrightarrow x \in [-2, 2]$$

$$\Rightarrow x-2\neq 0$$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\Rightarrow x^2 - 3 \leqslant 1 \xrightarrow{} x \in [-2, 2]$$

$$\Rightarrow x-2\neq 0$$

$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

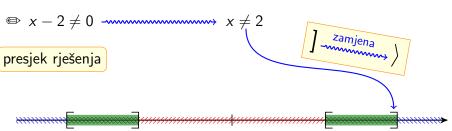
$$\Rightarrow x^2 - 3 \leqslant 1 \xrightarrow{} x \in [-2, 2]$$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1 \xrightarrow{} x \in [-2, 2]$$



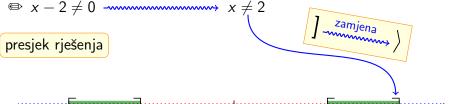
c) Domena
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$D_g = x \in [-2, -\sqrt{2}] \cup [\sqrt{2}, 2)$$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x^2 - 3 \leqslant 1 - x \leqslant 1 - x \leqslant [-2, 2]$$

 $-\sqrt{2}$

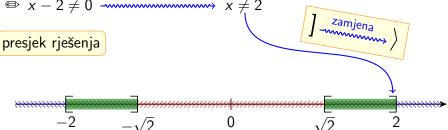


$$D_{g} = x \in \left[-2, -\sqrt{2}\right] \cup \left[\sqrt{2}, 2\right\rangle$$

$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\Rightarrow x^2 - 3 \geqslant -1 \xrightarrow{} x \in \langle -\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty \rangle$$

$$\Rightarrow x-2\neq 0$$
 ------ $x\neq 2$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\frac{\arccos\left(x^2-3\right)}{x-2}=0$$

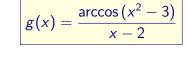
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

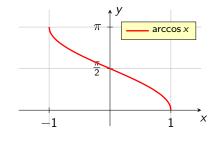
Nultočke
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$
$$\frac{\arccos(x^2 - 3)}{x - 2} = 0$$

$$x-2 = 0$$

$$\arccos(x^2 - 3) = 0$$

$$\frac{\arccos(x^2-3)}{x-2}=0$$
$$\arccos(x^2-3)=0$$

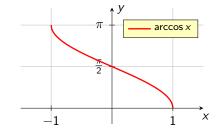




$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

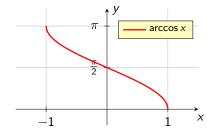
$$\frac{\arccos(x^2-3)}{x-2}=0$$

$$\arccos(x^2-3)=0$$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\frac{\arccos(x^2 - 3)}{x - 2} = 0$$
$$\arccos(x^2 - 3) = 0$$
$$x^2 - 3 = 1$$



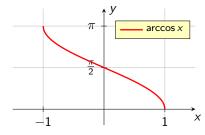
$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\frac{\arccos(x^2 - 3)}{x - 2} = 0$$

$$\arccos(x^2 - 3) = 0$$

$$x^2 - 3 = 1$$

$$x^2 = 4$$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

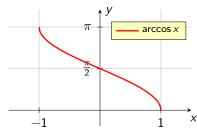
$$\frac{\arccos(x^2 - 3)}{x - 2} = 0$$

$$\arccos(x^2 - 3) = 0$$

$$x^2 - 3 = 1$$

$$x^2 = 4$$

$$x_1 = -2$$



$$g(x) = \frac{\arccos(x^2 - 3)}{x - 2}$$

$$\frac{\arccos(x^2 - 3)}{x - 2} = 0$$

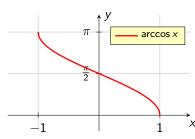
$$\arccos(x^2 - 3) = 0$$

$$x^2 - 3 = 1$$

$$x^2 = 4$$

$$x_1 = -2$$

$$x_2 = 2$$



 $\frac{\arccos\left(x^2-3\right)}{x-2}=0$

 $\arccos\left(x^2 - 3\right) = 0$ $x^2 - 3 = 1$

 $x^2 = 4$ $x_1 = -2 \qquad x_2 = 2$

 $\arccos x = 0 \Leftrightarrow x = 1$

 π $\frac{y}{2}$ arccos x

$$D_g = x \in \left[-2, -\sqrt{2}\right] \cup \left[\sqrt{2}, 2\right\rangle$$

 $\frac{\arccos\left(x^2-3\right)}{x-2}=0$

 $\arccos(x^2 - 3) = 0$ $x^2 - 3 = 1$ $x^2 = 4$

 $x_2 = 2$ -1

 $\arccos x = 0 \Leftrightarrow x = 1$

$$D_g = x \in \left[-2, -\sqrt{2}\right] \cup \left[\sqrt{2}, 2\right\rangle$$

Nultočke
$$arccos x = 0 \Leftrightarrow x = 1$$
 $g(x) = \frac{arccos(x^2 - 3)}{x - 2}$ $\frac{arccos(x^2 - 3)}{x - 2} = 0$ $x - 2$ $arccos(x^2 - 3) = 0$ $x^2 - 3 = 1$ $x^2 = 4$ $x_1 = -2$ $x_2 = 2$ $x_2 = 2$ $x_3 = 1$ $x = -2$ $x_4 = 2$ $x_5 = 2$ $x_6 = 2$ $x_7 = 2$ $x_8 = 2$ x

$$D_g = x \in \left[-2, -\sqrt{2}\right] \cup \left[\sqrt{2}, 2\right\rangle$$

Nultočke
$$arccos x = 0 \Leftrightarrow x = 1$$
 $g(x) = \frac{arccos(x^2 - 3)}{x - 2}$ $\frac{arccos(x^2 - 3)}{x - 2} = 0$ $arccos(x^2 - 3) = 0$ $x^2 - 3 = 1$ $x^2 = 4$ $x_1 = -2$ $x_2 = 2$ $x_1 = -2$ $x_2 = 2$ $x_2 = 2$ $x_3 = 1$ $x_4 = -2$ $x_4 = -2$ $x_5 = -2$ $x_5 = -2$ $x_6 = -2$ $x_7 = -2$ $x_8 = -2$

 $D_g = x \in \left[-2, -\sqrt{2}\right] \cup \left[\sqrt{2}, 2\right\rangle$

c) Nultočke

Nultočke
$$arccos x = 0 \Leftrightarrow x = 1$$
 $g(x) = \frac{arccos(x^2 - 3)}{x - 2}$ $\frac{arccos(x^2 - 3)}{x - 2} = 0$ $\frac{arccos(x^2 - 3)}{x - 2} = 0$ $x^2 - 3 = 1$ $x^2 = 4$ $x_1 = -2$ $x_2 = 2$ $x_2 = 2$ $x_3 = 1$ $x = 4$ $x_1 = -2$ $x_2 = 2$ $x_2 = 2$ $x_3 = 1$ $x = 1$