EKSP. FUNKCIJA IN LOGARITMI *PTI*

Naloga 1

Nariši graf funkcije, izračunaj še ničlo, začetno vrednost, asimptoto ter vrednost v danih točkah x_1 in x_2:

a) $f(x) = 2^x - 4, \;\; x_1 = -1, x_2 = -3$

b) $f(x) = 3^x - 3, \;\; x_1 = -1, x_2 = 2$

c) $f(x) = \left(\frac{1}{2}\right)^x - 1, \;\; x_1 = -1, x_2 = 3$

d) $f(x) = \left(\frac{1}{3}\right)^{x+1} + 3 \;\; x_1 = -1, x_2 = -2$

e) $f(x) = 2^{x+3} - 4 \;\; x_1 = -2, x_2 = -3$

f) $f(x) = \left(\frac{2}{3}\right)^{x-4} + \frac{9}{4} \;\; x_1 = 3, x_2 = 4$

Naloga 2

Reši enačbo:

a) $3^x = \frac{1}{9}$

b) $2^{1-x} = \frac{1}{4}$

c) $2^{3-2x} = \sqrt{2}$

d) $\left(\frac{1}{4}\right)^{x+2} = 16$

e) $2^x \cdot 2^{x+1} \cdot 4^{x-3} = 16$

f) $2^x \cdot 16^{-x+1} : 4^{x-3} = \frac{1}{8}$

g) $(\sqrt{3})^{x+1} = \sqrt[5]{3}$

Naloga 3

Določi x:

a) $\log_3(x+2) = 2$

b) $\log_2(2x+1) = 1$

c) $\log_5(2 + \frac{x}{5}) = -1$

d) $\log(10x + 99^{-1}) = -2$

f) $\log_x 4 = 16$

g) $\log_x 2 = \frac{1}{9}$