Definiční obor

$$f(x) = \sqrt{\frac{2^x - 8}{x^2+4x-5}} + \ln(x^2+3x)$$

I) odmocnina

$$\frac{2^x - 8}{x^2+4x-5} \geq 0$$

II) jmenovatel

$$x^2+4x-5 \neq 0$$

III) logaritmus

$$x^2+3x > 0$$

Nulové body

čitatel:

$$2^x - 8 = 0$$
$$2^x = 8$$
$$2^x = 2^3$$
$$x = 3$$

$x_3 = 0 \quad x_4 = -3$

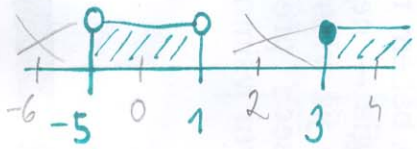
$x^2+4x-5 = 0$

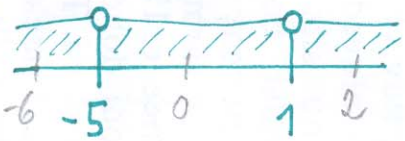
$(x-1)(x+5) = 0$

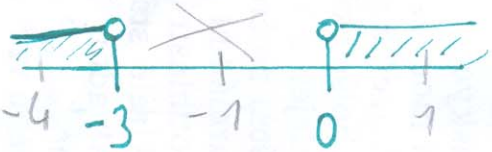
$x_1 = 1 \quad x_2 = -5$

jmenovatel:

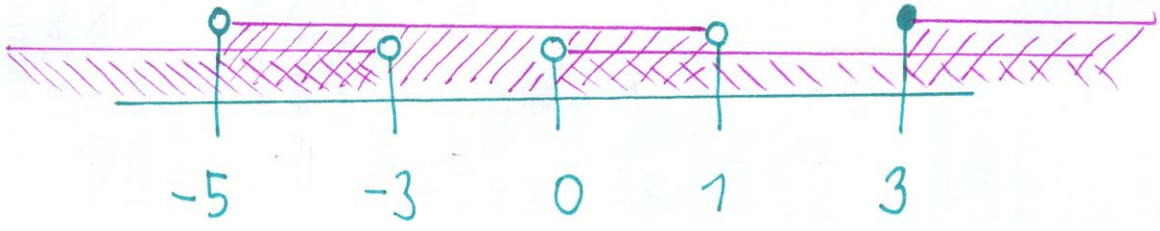
$x_1 = 1 \quad x_2 = -5$





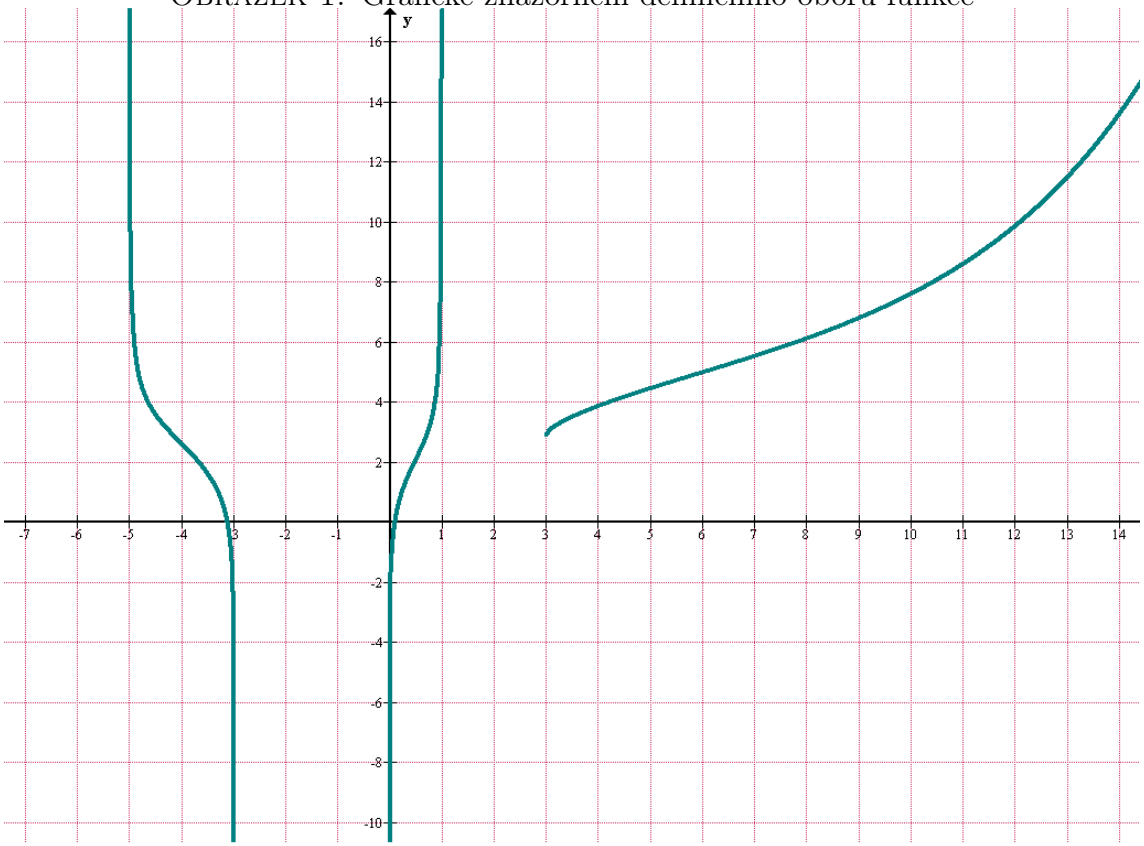


Sloučení dílčích podmínek



$$x \in (-5;-3) \cup (0;1) \cup \langle 3;\infty)$$

Obrázek 1. Grafické znázornění definičního oboru funkce



Zdroj: program Graph