

Definiční obor

$$f(x) = \sqrt{\frac{x^2 + 7x - 8}{9 - x^2}} + \log(\log(x+7))$$

I) odmocnina

$$\frac{x^2 + 7x - 8}{9 - x^2} \geq 0$$

II) jmenovatel

$$9 - x^2 \neq 0$$

III) 1. log

$$\log(x+7) > 0$$

IV) 2. log

$$x+7 > 0$$

Nullové body:

z čitatele:

$$x^2 + 7x - 8 = 0$$

$$(x+8)(x-1) = 0$$

$$\underline{x = -8} \quad \underline{x = 1}$$

$$9 - x^2 = 0$$

$$x^2 = 9$$

$$\underline{x = \pm 3}$$

$$x+7 = 10^0$$

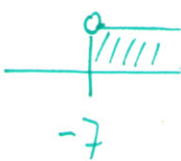
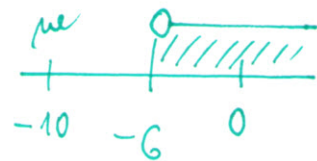
$$x+7 = 1 \quad | -7$$

$$\underline{x = -6}$$

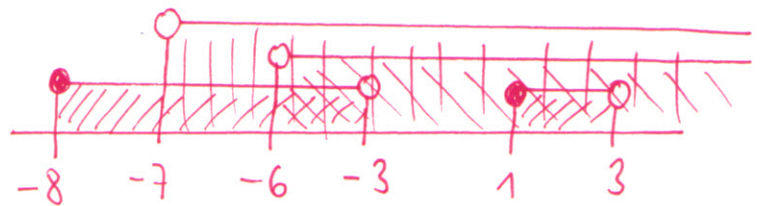
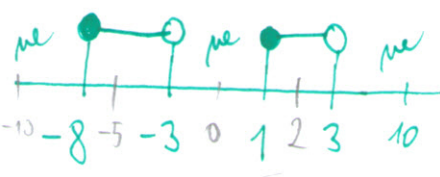
$$\underline{x = -7}$$

ze jmenovatele

$$\underline{x = \pm 3}$$



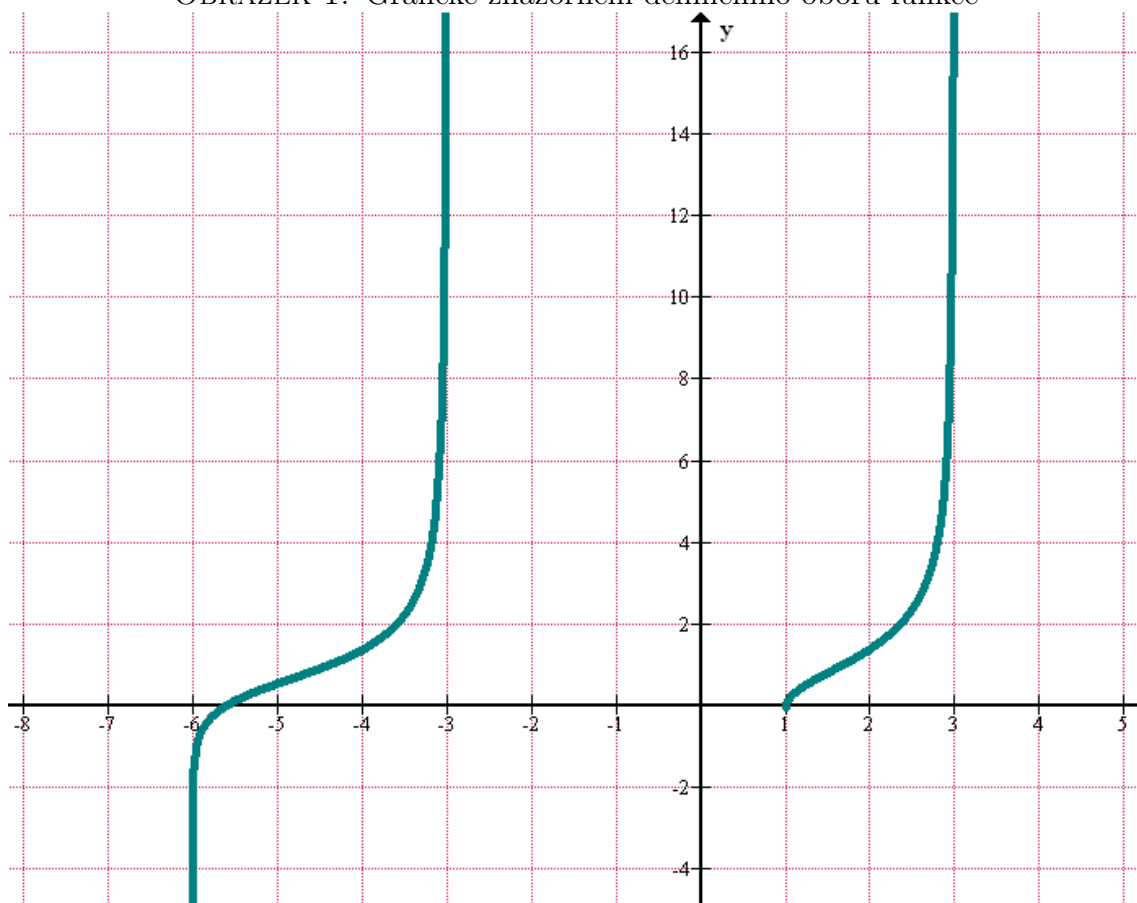
Průnik obou podmínek



$$\underline{x \in (-6; -3) \cup (1; 3)}$$

Stážno z: matematika - lucerna. ež

OBRÁZEK 1. Grafické znázornění definičního oboru funkce



Zdroj: program Graph