

# Definiční obor

$$f(x) = \ln(x^2 - 4) + \sqrt{\frac{x^2 + 2x - 24}{x^2 + 4x}}$$

I) logaritmus

$$x^2 - 4 > 0$$

II) odmocnina

$$\frac{x^2 + 2x - 24}{x^2 + 4x} \geq 0$$

III) jmenovatel

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

$$x^2 = 4$$

$$x = \pm 2$$

Nulové body:

z čitatele:

$$x^2 + 2x - 24 = 0$$

$$(x + 6)(x - 4) = 0$$

$$x = -6 \quad x = 4$$

z jmenovatele:

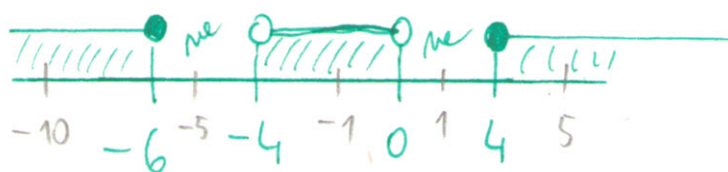
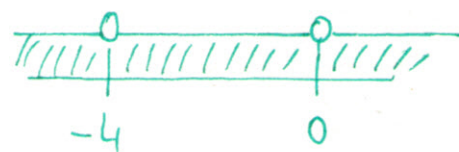
$$x = 0 \quad x = -4$$

$$x(x + 4) = 0$$

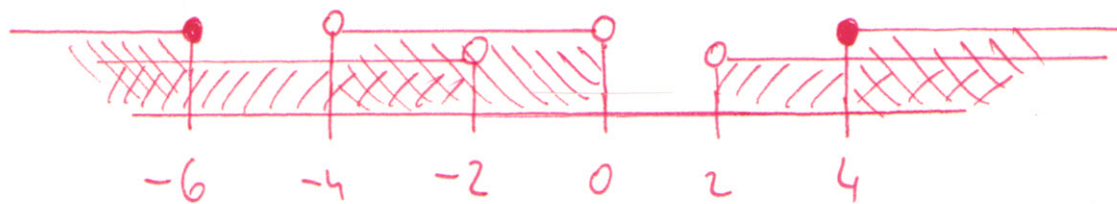
$$x = 0$$

$$x + 4 = 0$$

$$x = -4$$

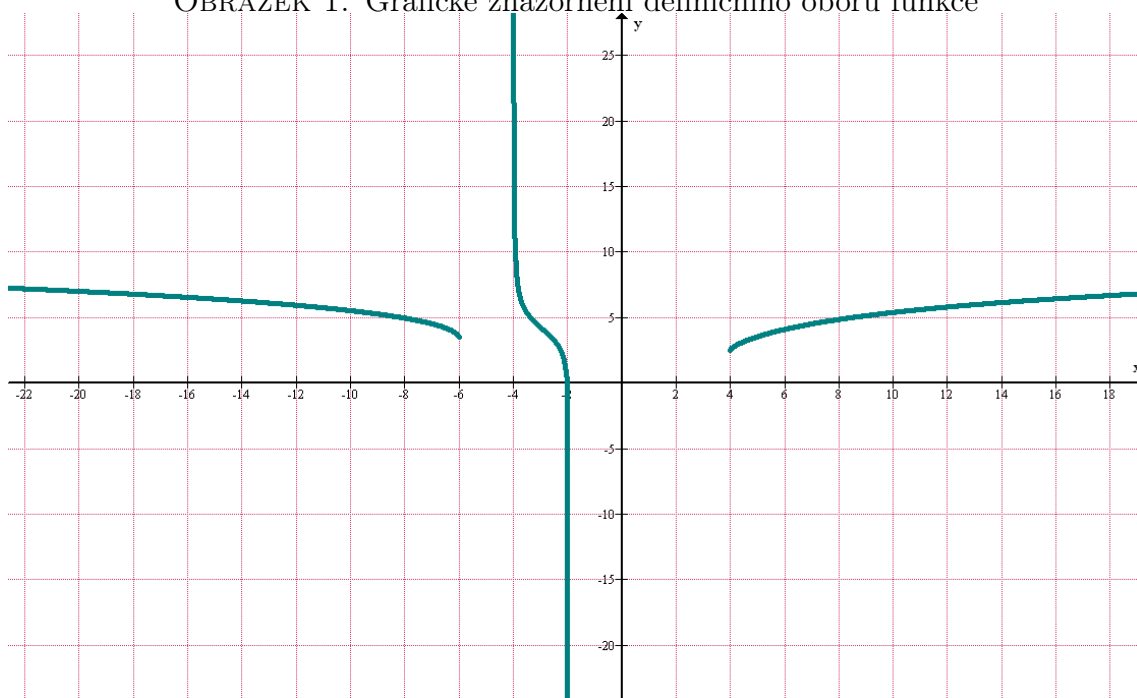


Průnik definičních podmínek



$$x \in (-\infty; -6) \cup (-4; -2) \cup (2; 4)$$

OBRÁZEK 1. Grafické znázornění definičního oboru funkce



Zdroj: program Graph