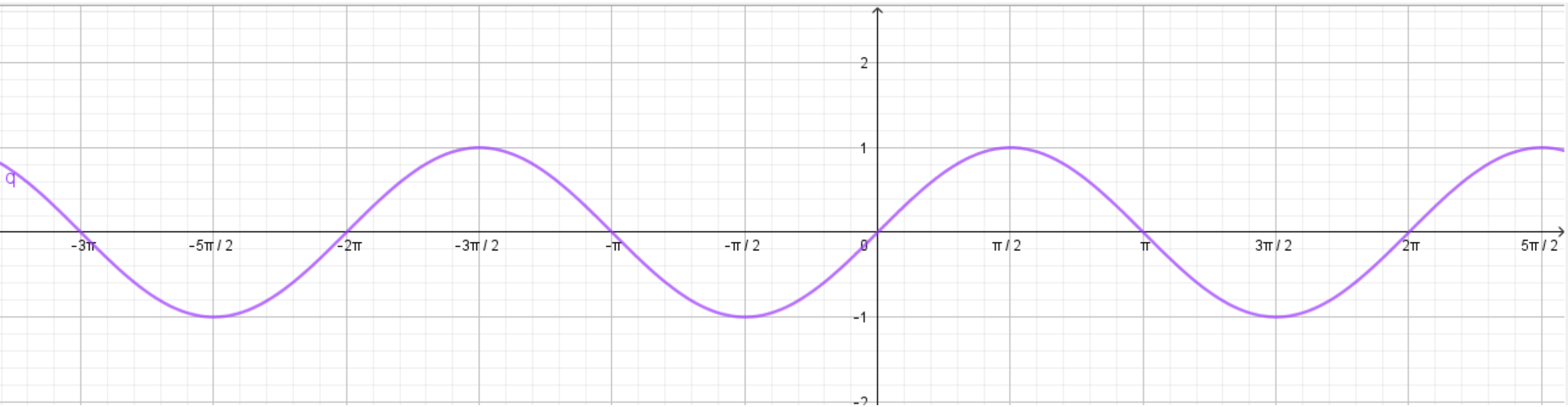


Exemplo. Encontre o domínio da função:

$$a) f(x) = e^{\sqrt{-x^4-2x^3+3x^2+8x+4}} \ln(\operatorname{sen}(2x))$$

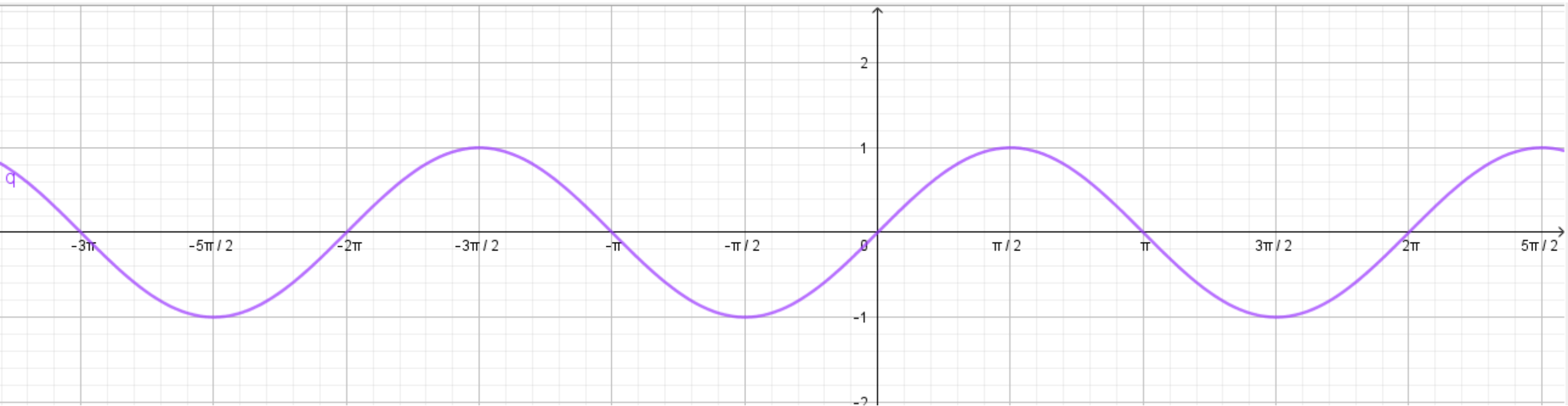


Exemplo. Encontre o domínio da função:

$$\text{b) } f(x) = \frac{\arcsen(2x+5)}{\log_{\frac{1}{3}}(|x^2-1|-1)}$$

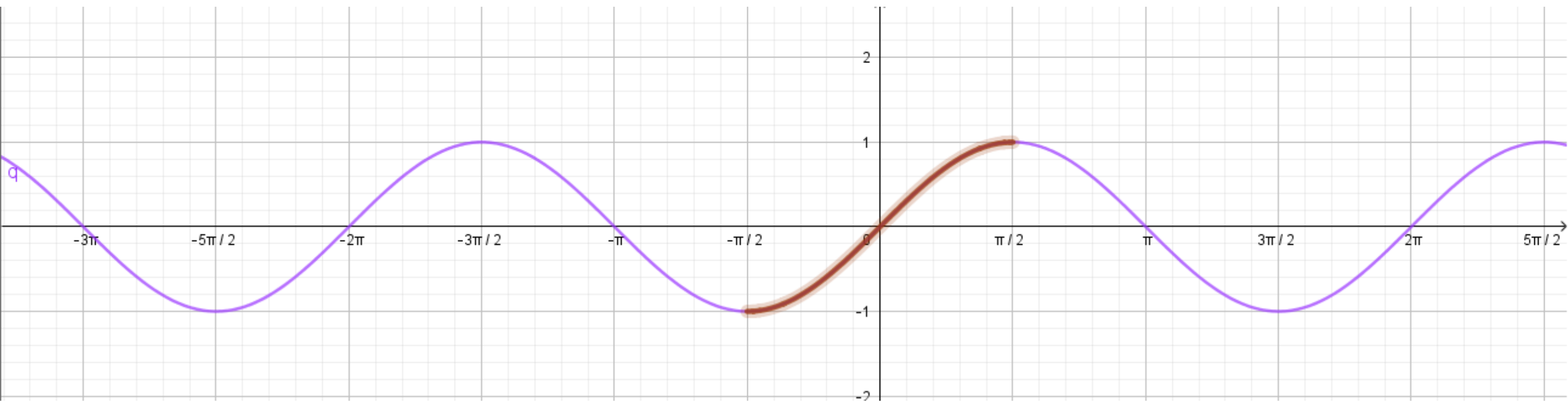
Funções Inversas das Trigonômicas

Função Seno: $f: \mathbb{R} \rightarrow [-1,1], f(x) = \text{sen}(x)$



Funções Inversas das Trigonômicas

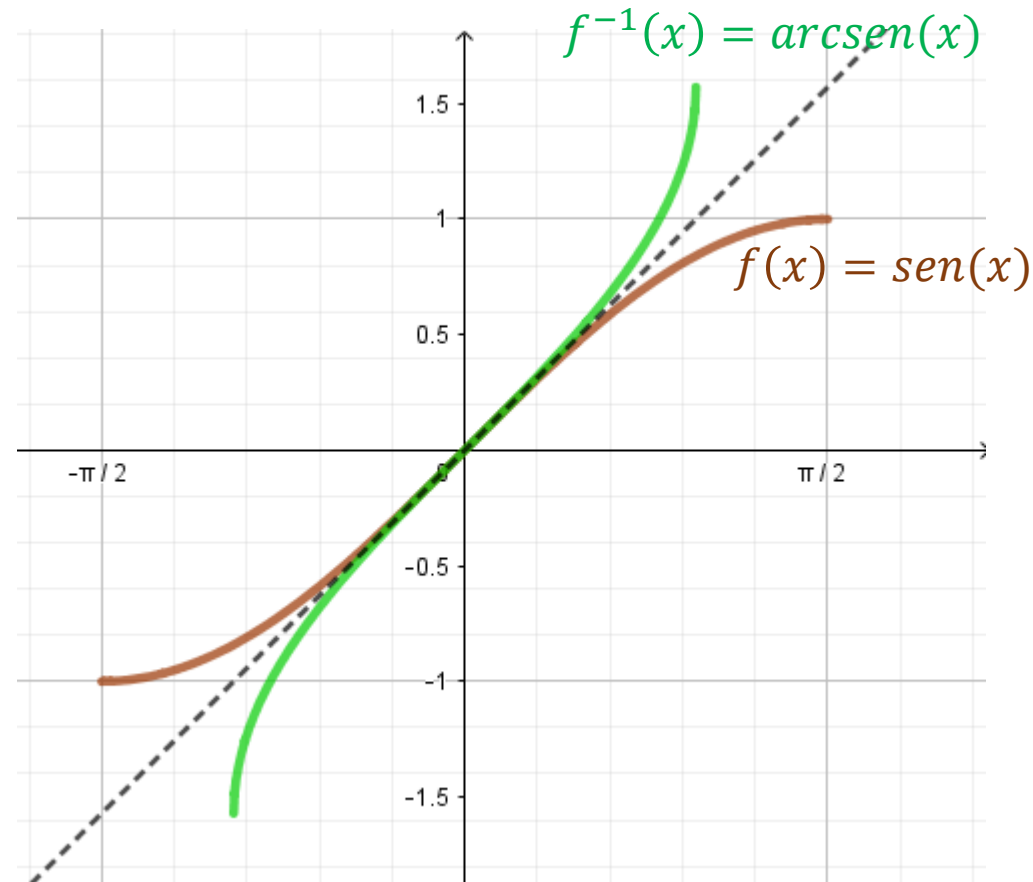
Função Seno: $f: \mathbb{R} \rightarrow [-1,1], f(x) = \text{sen}(x)$



Para ser bijetora, considere: $f: \left[-\frac{\pi}{2}, \frac{\pi}{2}\right] \rightarrow [-1,1]$

Funções Inversas das Trigonômicas

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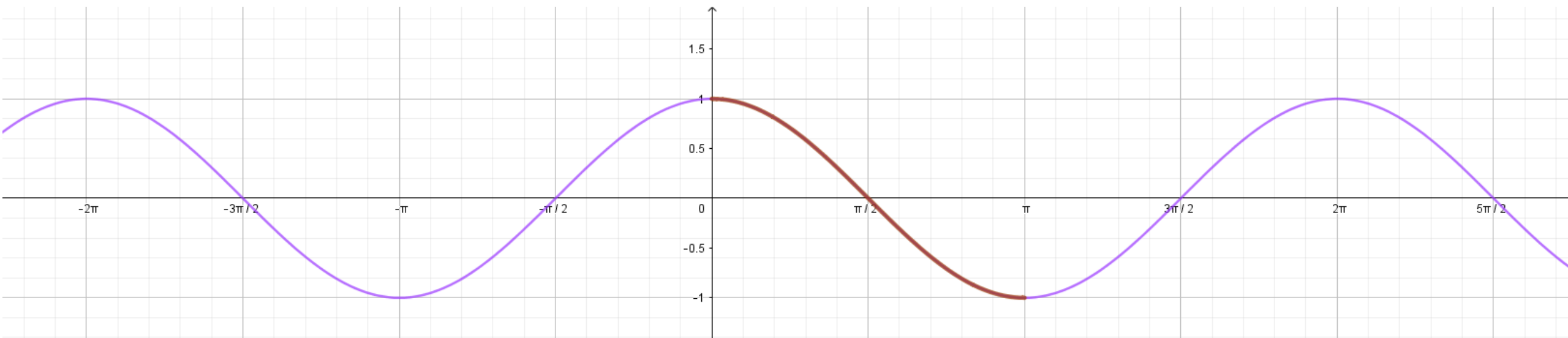


Para ser bijetora, considere: $f: \left[-\frac{\pi}{2}, \frac{\pi}{2}\right] \rightarrow [-1,1]$

Função Arco Seno: $f^{-1}: [-1,1] \rightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2}\right], f^{-1}(x) = \arcsen(x)$

Funções Inversas das Trigonômicas

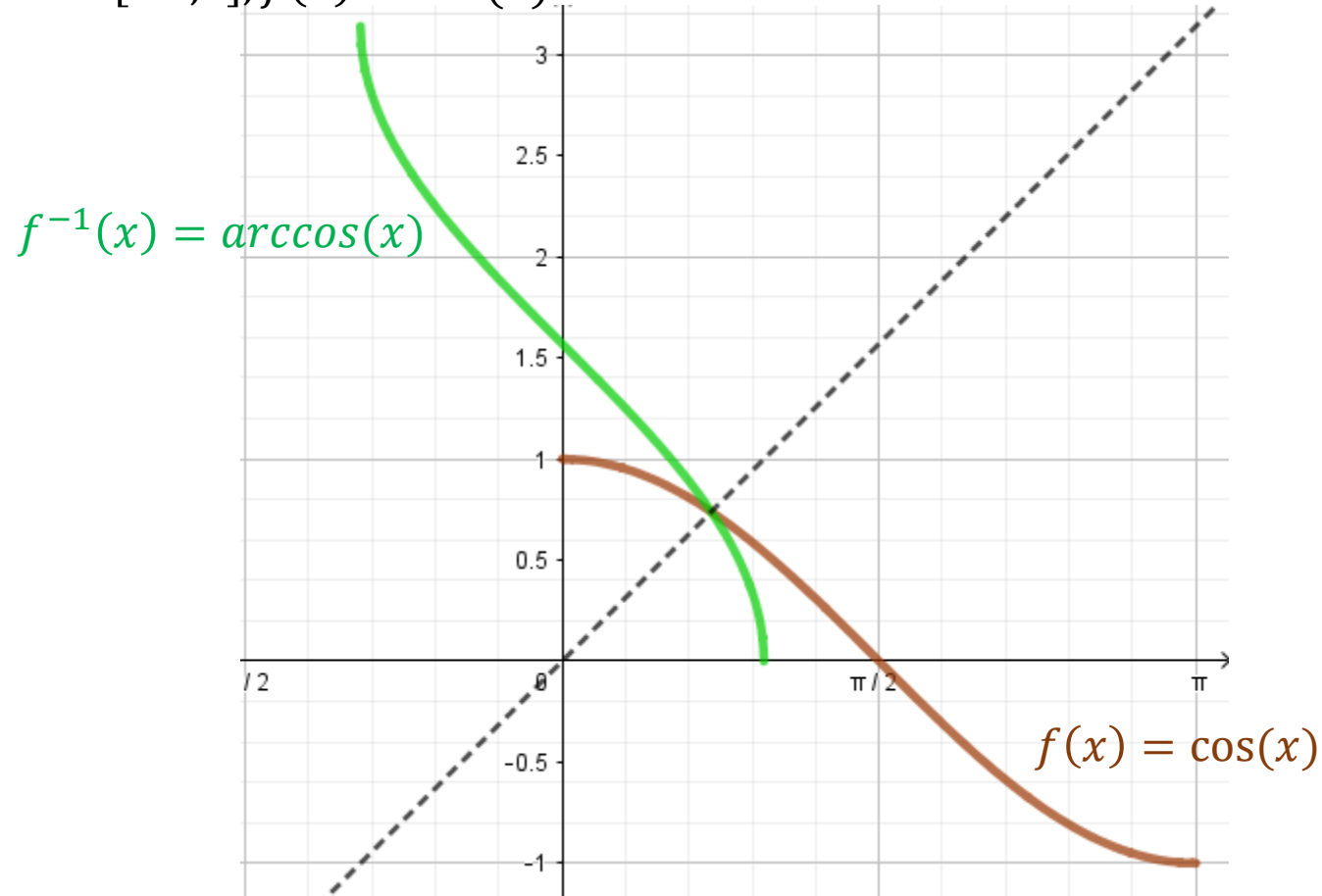
Função Cosseno: $f: \mathbb{R} \rightarrow [-1,1], f(x) = \cos(x)$



Para ser bijetora, considere: $f: [0, \pi] \rightarrow [-1,1]$

Funções Inversas das Trigonômicas

Função Cosseno: $f: \mathbb{R} \rightarrow [-1,1], f(x) = \cos(x)$

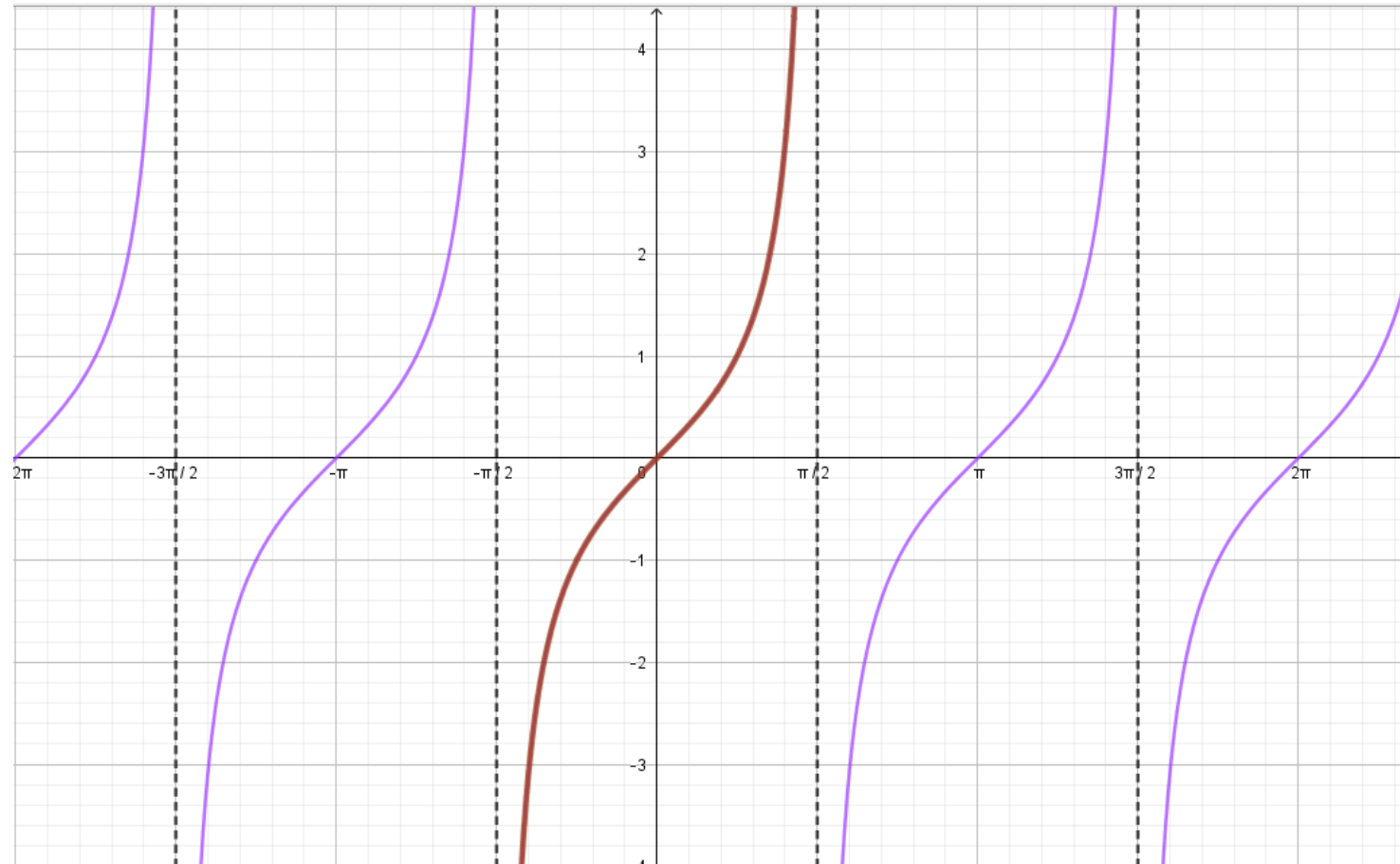


Para ser bijetora, considere: $f: [0, \pi] \rightarrow [-1,1]$

Função Arco Cosseno: $f^{-1}: [-1,1] \rightarrow [0, \pi], f^{-1}(x) = \arccos(x)$

Funções Inversas das Trigonômicas

Função Tangente: $f: \mathbb{R} - \left\{ \frac{(2k+1)\pi}{2}, k \in \mathbb{Z} \right\} \rightarrow \mathbb{R}, f(x) = tg(x) = \frac{\text{sen}(x)}{\cos(x)}$

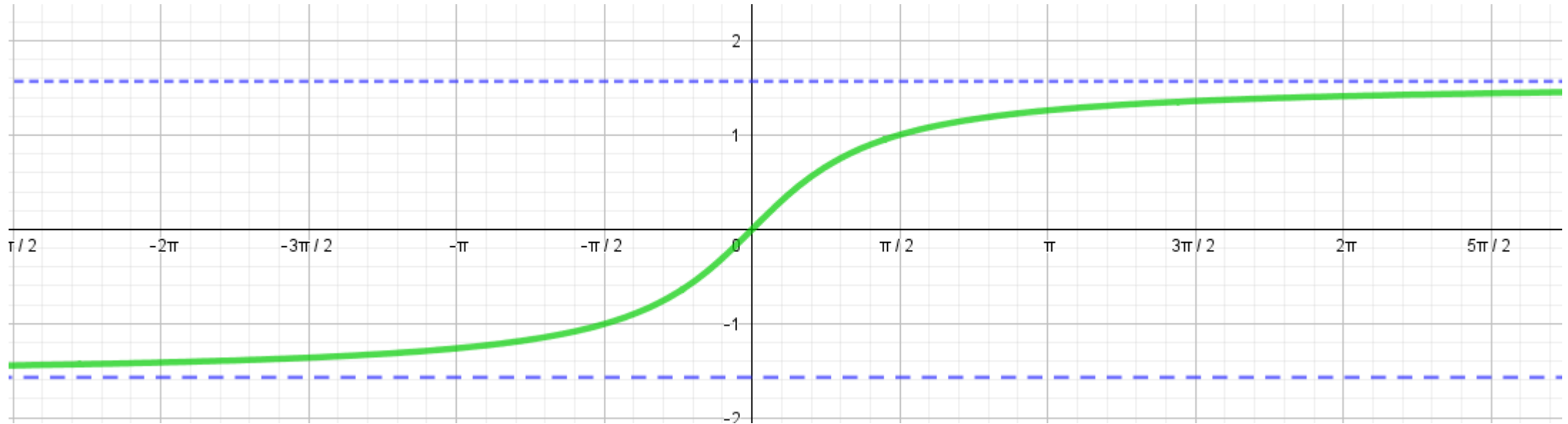


Para ser bijetora, considere: $f: \left[-\frac{\pi}{2}, \frac{\pi}{2} \right] \rightarrow \mathbb{R}$

Funções Inversas das Trigonômicas

Função Tangente: $f: \mathbb{R} - \left\{ \frac{(2k+1)\pi}{2}, k \in \mathbb{Z} \right\} \rightarrow \mathbb{R}, f(x) = tg(x) = \frac{\text{sen}(x)}{\cos(x)}$

Função Arco Tangente: $f^{-1}: \mathbb{R} \rightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2} \right], f^{-1}(x) = \text{arctg}(x)$



Retornado ao exemplo...

$$\text{b) } f(x) = \frac{\arcsen(2x+5)}{\log_{\frac{1}{3}}(|x^2-1|-1)}$$

c) $f(x) = \ln(4 \operatorname{arctg}(3x) - \pi)$