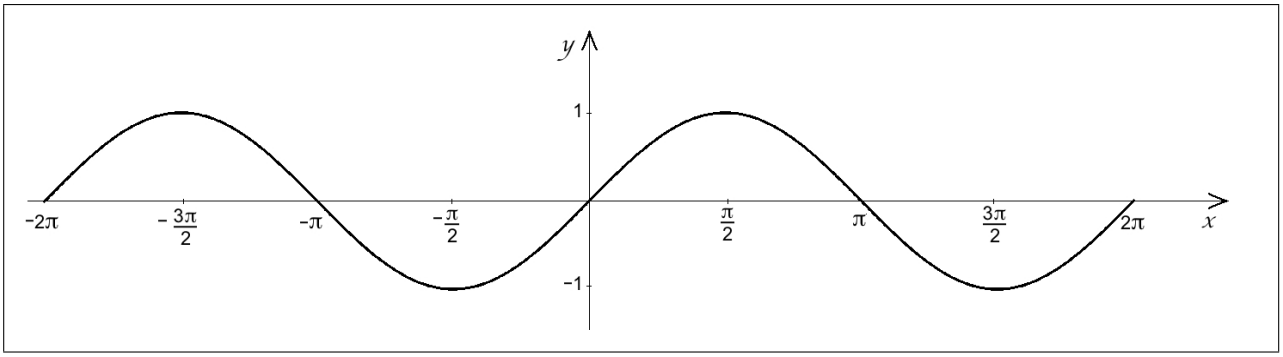
$$f(x) = \sin x$$

domain: $\mathbb{R}$

range: $[-1, 1]$

periodic with period 2π: for all x, $\sin(x + 2\pi) = \sin x$

odd function: for all x, $\sin(-x) = -\sin x$



$$f(x) = \csc x = \frac{1}{\sin x}$$

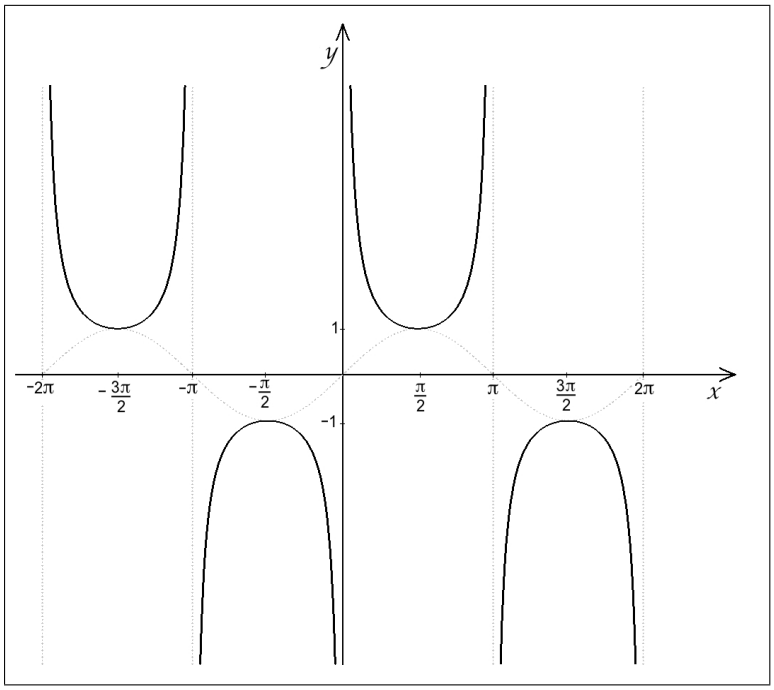
domain: $x \neq k\pi$

range: $(-\infty, -1] \cup [1, \infty)$

periodic with period 2π: for all x, $\csc(x + 2\pi) = \csc x$

vertical asymptotes at $x = k\pi$ where $k \in \mathbb{Z}$

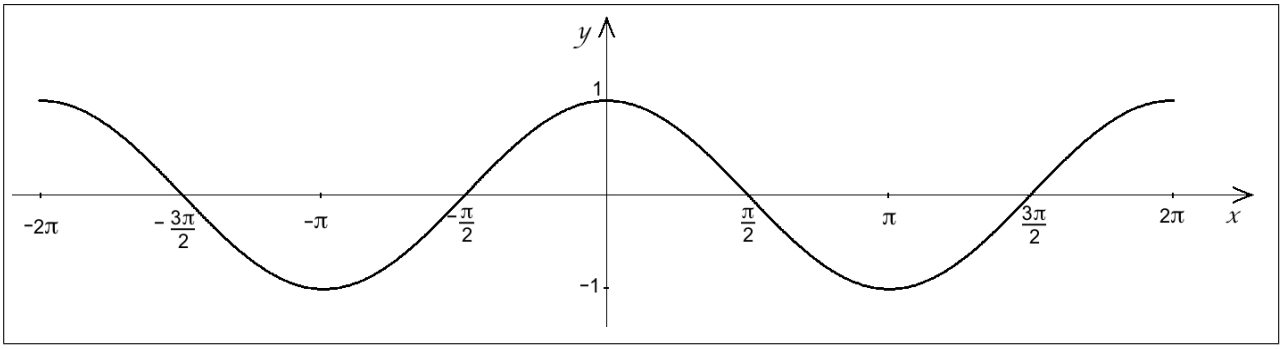
odd function: for all x, $\csc(-x) = -\csc x$



$$\boxed{f(x) = \cos x}$$

domain: $\mathbb{R}$
range: $[-1, 1]$

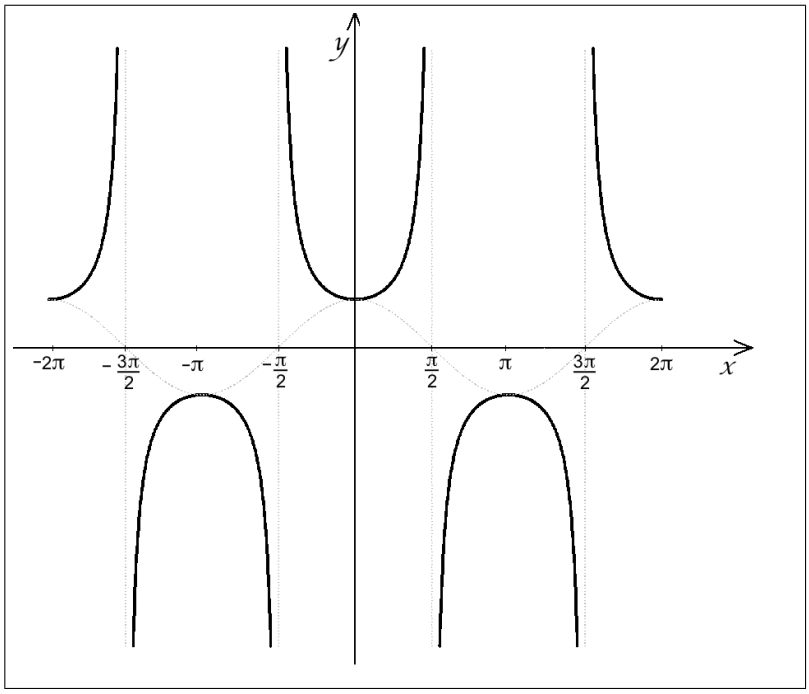
periodic with period 2π: for all x, $\cos(x + 2\pi) = \cos x$
even function: for all x, $\cos(-x) = \cos x$



$$\boxed{f(x) = \sec x = \frac{1}{\cos x}}$$

domain: $x \neq \frac{\pi}{2} + k\pi$ where $k \in \mathbb{Z}$
range: $(-\infty, -1] \cup [1, \infty)$
periodic with period 2π: for all x, $\sec(x + 2\pi) = \sec x$

vertical asymptotes at $x = \frac{\pi}{2} + k\pi$ where $k \in \mathbb{Z}$
even function: for all x, $\sec(-x) = \sec x$



$$f(x) = \tan x = \frac{\sin x}{\cos x}$$

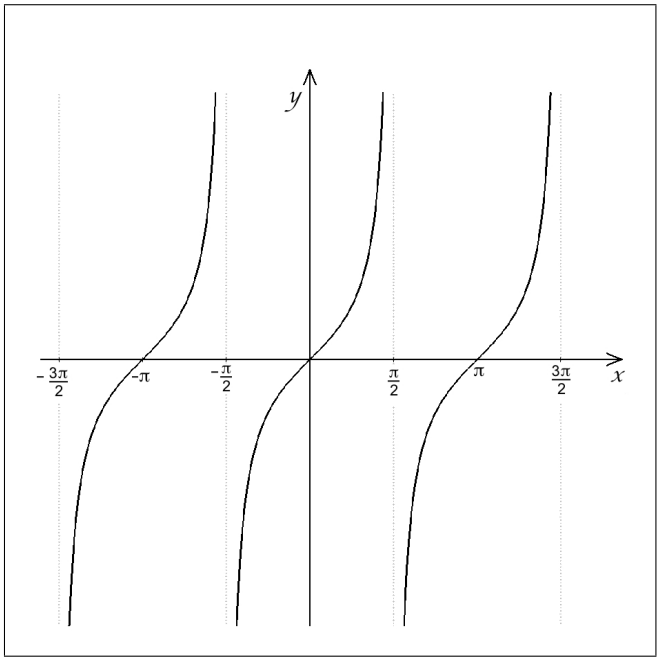
domain: $x \neq \frac{\pi}{2} + k\pi$ where $k \in \mathbb{Z}$

range: $\mathbb{R}$

periodic with period π: for all x, $\tan(x + \pi) = \tan x$

vertical asymptotes at $x = \frac{\pi}{2} + k\pi$ where $k \in \mathbb{Z}$

odd function: for all x, $\tan(-x) = -\tan x$



$$f(x) = \cot x = \frac{\cos x}{\sin x}$$

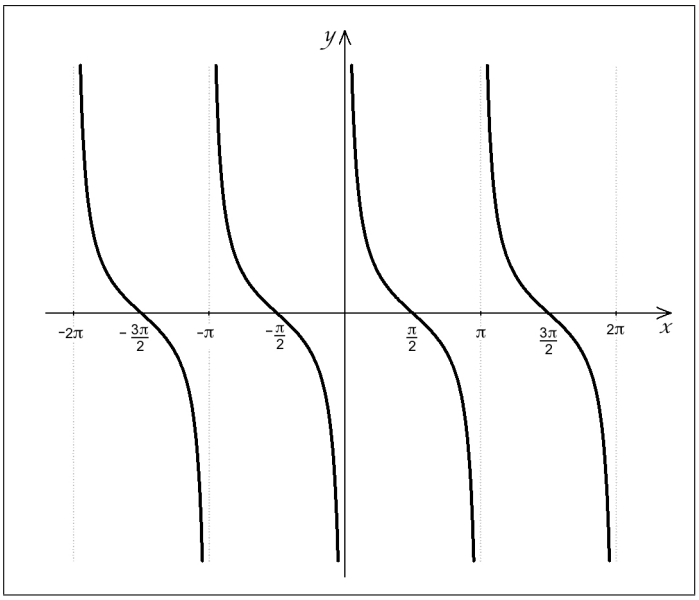
domain: $x \neq k\pi$

range: $\mathbb{R}$

periodic with period π: for all x, $\cot(x + \pi) = \csc x$

vertical asymptotes at $x = k\pi$ where $k \in \mathbb{Z}$

odd function: for all x, $\cot(-x) = -\cot x$



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