#16 $f(x) = \sec x$ $\quad -\frac{\pi}{2} < x < \frac{3\pi}{2}$

$f'(x) = \sec x \tan x$

$f(0) = \sec 0 = 1$ Local min

$f(\pi) = \sec \pi = -1$ local max

Critical #s

$f'(x) = 0$

$\sec x = 0$

none

$f'(x)$ und

$\sec x$ und?

~~$\frac{\pi}{2}$~~, ~~$\frac{3\pi}{2}$~~

$\tan x = 0$

$x = 0$

$x = \pi$

$\tan$ und?

~~$\frac{\pi}{2}$~~, ~~$\frac{3\pi}{2}$~~

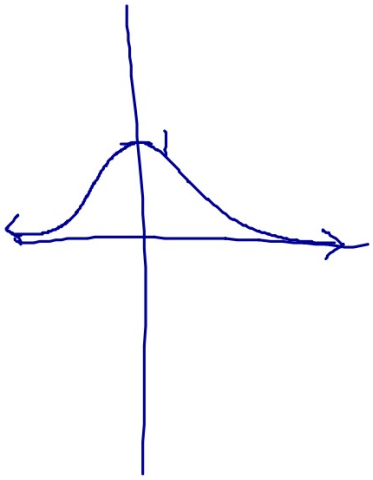
#14 $K(x) = e^{-x^2} = \frac{1}{e^{x^2}}$ $\quad -\infty < x < \infty$

$K(0) = e^{-0^2} = e^0 = 1$

$K'(x) = e^{-x^2}(-2x)$

$K'(x) = -2xe^{-x^2} = \frac{-2x}{e^{x^2}}$

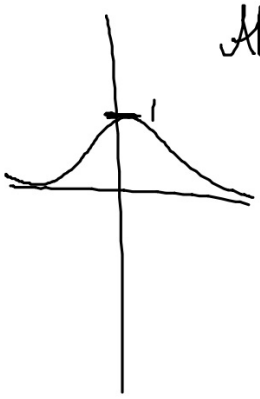
Abs. max of 1 at $x=0$.



Zero	Und
$-2x=0$	$e^{x^2}=0$
$x=0$	none

#14 $K(x) = e^{-x^2}$ $-\infty < x < \infty$

$f(0) = e^{-0^2} = e^0 = 1$



Abs. max of 1 at $x = 0$.

$K'(x) = e^{-x^2}(-2x)$

$K'(x) = \frac{-2x}{e^{x^2}}$

Zero:	Und:
$-2x = 0$	$e^{x^2} \neq 0$
$x = 0$	none

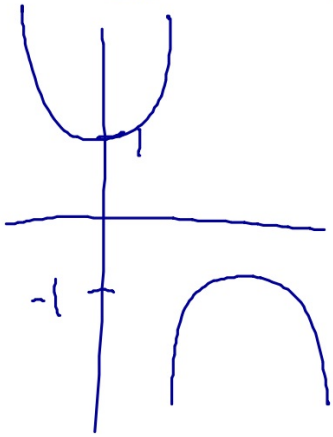
#16) $f(x) = \sec x$ $\quad -\frac{\pi}{2} < x < \frac{3\pi}{2}$

$\frac{-\sin x}{\cos^2 x}$

$f'(x) = \sec x \tan x$

$f(0) = \sec 0 = 1 \leftarrow$ local min

$f(\pi) = \sec \pi = -1 \leftarrow$ local max



Zero

$\sec x \neq 0$

$\tan x = 0$

$x = 0, \pi$

Und

$\sec x$ und?

$x = \frac{\pi}{2}, \frac{3\pi}{2}$

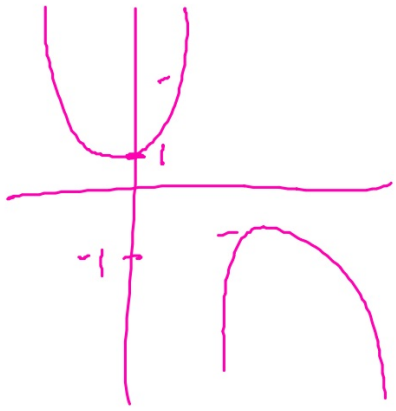
tan und?

$x = \frac{\pi}{2}, \frac{3\pi}{2}$

#16) $f(x) = \sec x \quad -\frac{\pi}{2} < x < \frac{3\pi}{2}$

$f(0) = \sec 0 = 1$ local Min

$f(\pi) = \sec \pi = -1$ local max



$f'(x) = \sec x \tan x$

$\frac{1}{\cos x} \cdot \frac{\sin x}{\cos x}$

$f'(x) = \frac{\sin x}{\cos^2 x}$

Zero

$\sin x = 0$

$x = 0, \pi$

Und

$\cos^2 x = 0$

$\cos x = 0$

$\frac{\pi}{2}, \frac{3\pi}{2}$