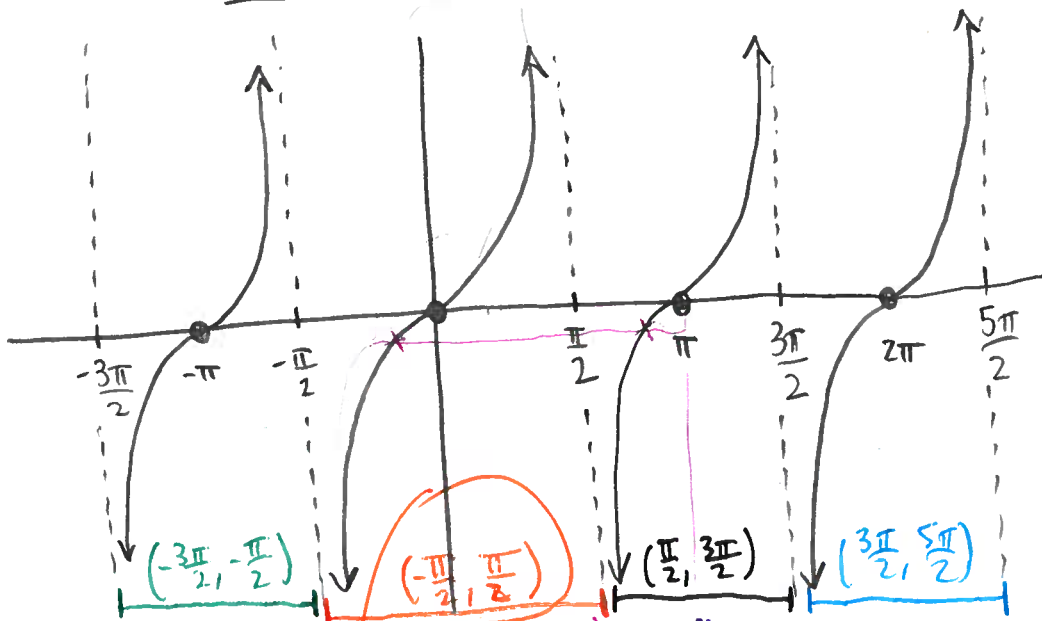


Graph tangent



5.2 + 1

(1)



less ugly —
no asymptote
in middle

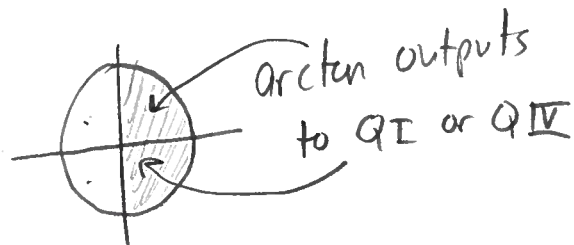
kind of ugly
bc has asymptote
in middle

most common choice

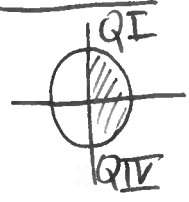
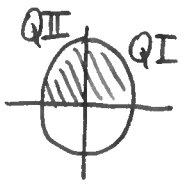
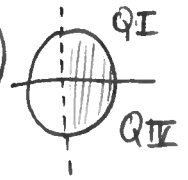
We use domain restriction

$$\tan: \left(-\frac{\pi}{2}, \frac{\pi}{2}\right) \rightarrow \mathbb{R}$$

to define arctan.

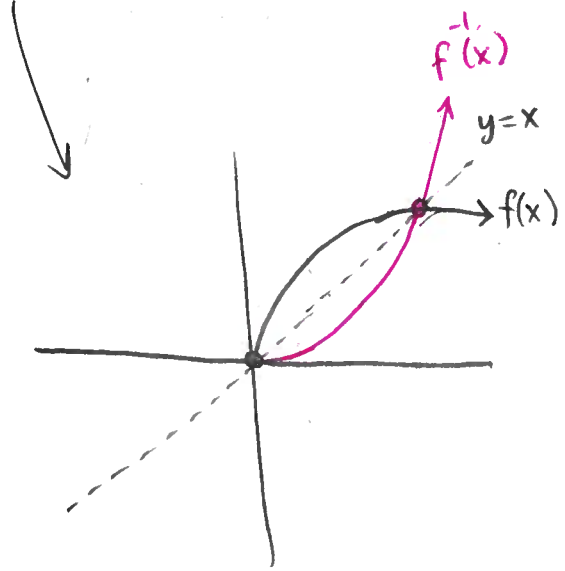


Summarize what we've done

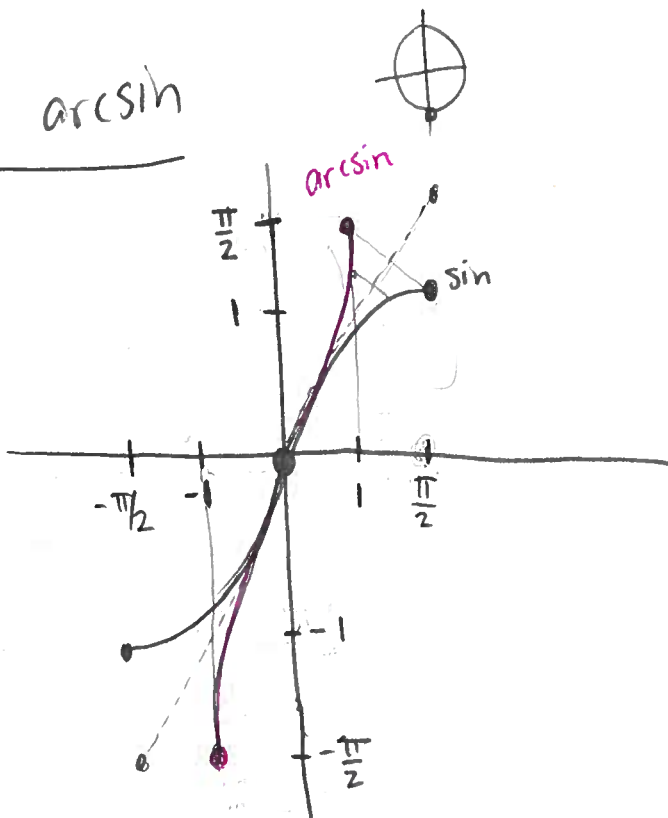
<u>TRIG FUNCT</u>	<u>domain restriction</u>	<u>inverse</u>	<u>where inverse outputs</u>
sin	$[-\frac{\pi}{2}, \frac{\pi}{2}]$	$\arcsin: [-1, 1] \rightarrow [-\frac{\pi}{2}, \frac{\pi}{2}]$	
cos	$[0, \pi]$	$\arccos: [-1, 1] \rightarrow [0, \pi]$	
tan	$(-\frac{\pi}{2}, \frac{\pi}{2})$	$\arctan: \mathbb{R} \rightarrow (-\frac{\pi}{2}, \frac{\pi}{2})$	

FACT: the graph of the inverse of a function is the graph of the function "reflected about line $y=x$ "

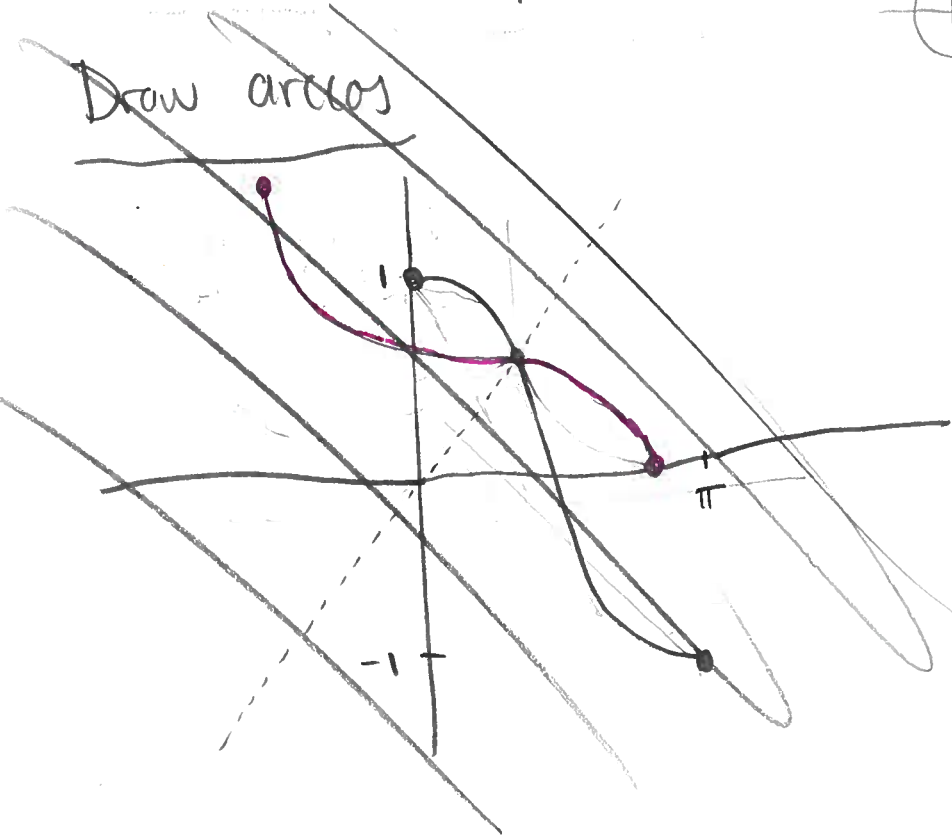
What do graphs look like?



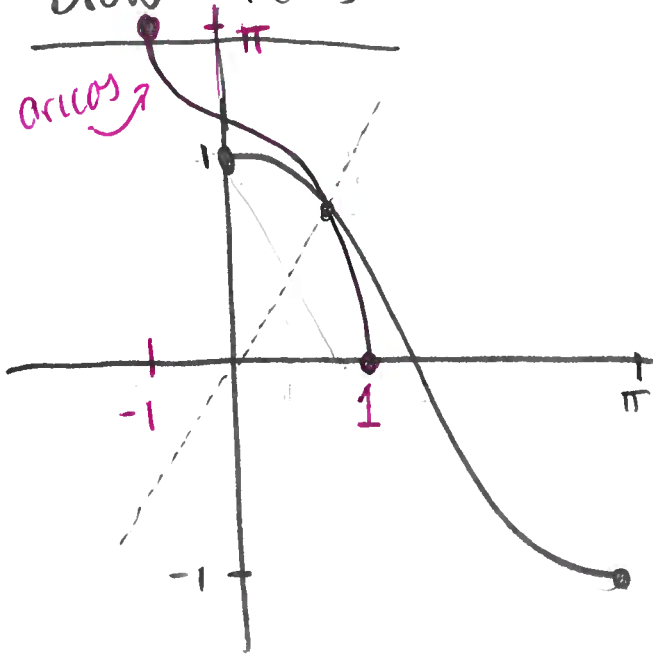
Draw arcsin



Draw arccos



Draw arccos



Draw arctan

