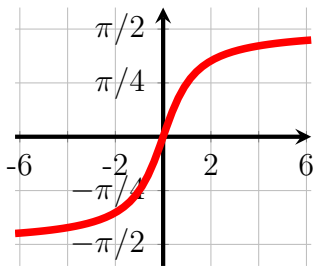
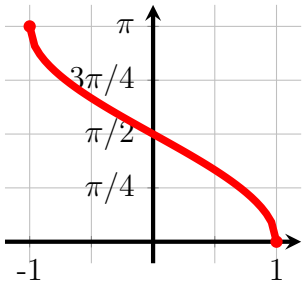
Inverse Trigonometric Functions

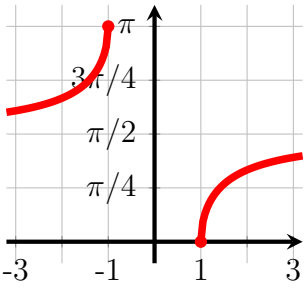
1. Identify the graphs below as $\arcsin x$, $\arccos x$, $\arctan x$, $\operatorname{arcsec} x$.
   Hint: look at the domain and range!



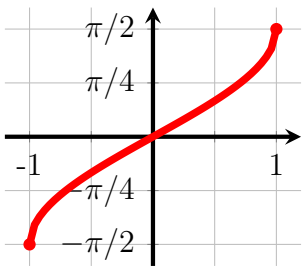
Function = ☐



Function = ☐



Function = ☐



Function = ☐

2. Give the following basic values of inverse trig functions.

$\arcsin\left(\frac{1}{2}\right)$	$\arcsin\left(-\frac{1}{2}\right)$	$\arccos\left(\frac{1}{2}\right)$	$\arccos\left(-\frac{1}{2}\right)$	$\arctan\left(\sqrt{3}\right)$	$\arctan\left(-\sqrt{3}\right)$

3. Evaluate the compositions below.

$\arcsin\left(\sin\left(\frac{\pi}{5}\right)\right)$	$\arcsin\left(\sin\left(\frac{4\pi}{5}\right)\right)$	$\arcsin\left(\sin\left(\frac{6\pi}{5}\right)\right)$	$\arcsin\left(\sin\left(\frac{9\pi}{5}\right)\right)$
$\arccos\left(\cos\left(\frac{\pi}{5}\right)\right)$	$\arccos\left(\cos\left(\frac{4\pi}{5}\right)\right)$	$\arccos\left(\cos\left(\frac{6\pi}{5}\right)\right)$	$\arccos\left(\cos\left(\frac{9\pi}{5}\right)\right)$
$\arctan\left(\tan\left(\frac{\pi}{5}\right)\right)$	$\arctan\left(\tan\left(\frac{4\pi}{5}\right)\right)$	$\arctan\left(\tan\left(\frac{6\pi}{5}\right)\right)$	$\arctan\left(\tan\left(\frac{9\pi}{5}\right)\right)$

4. Evaluate the compositions below.

$\cos\left(\arcsin\left(\frac{3}{5}\right)\right)$

$\cos\left(\arcsin\left(-\frac{3}{5}\right)\right)$

$\cos\left(\arctan\left(-\frac{3}{2}\right)\right)$

$\sin\left(\arccos\left(\frac{3}{5}\right)\right)$

$\sin\left(\arccos\left(-\frac{3}{5}\right)\right)$

$\sin\left(\arctan\left(3\right)\right)$