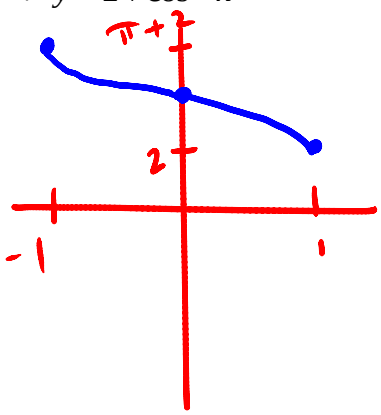
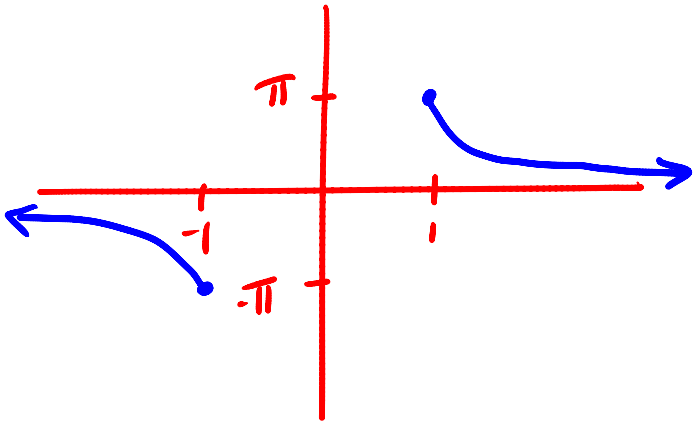
PreCalculus Honors Name_____Per_____
Worksheet 4.7 Graphs of Inverses

Sketch a graph of the following transformations of the inverse functions. Make sure axes are maked off neatly and correctly.

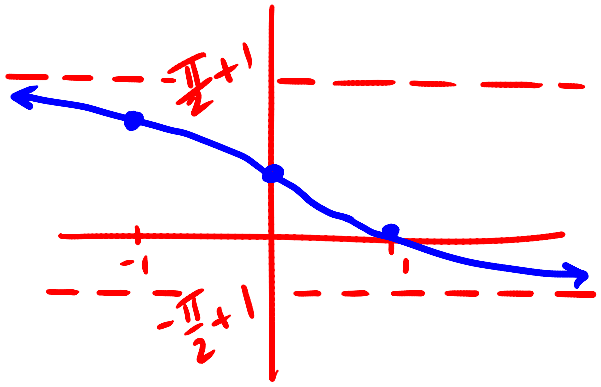
1. $y = 2 + \cos^{-1} x$



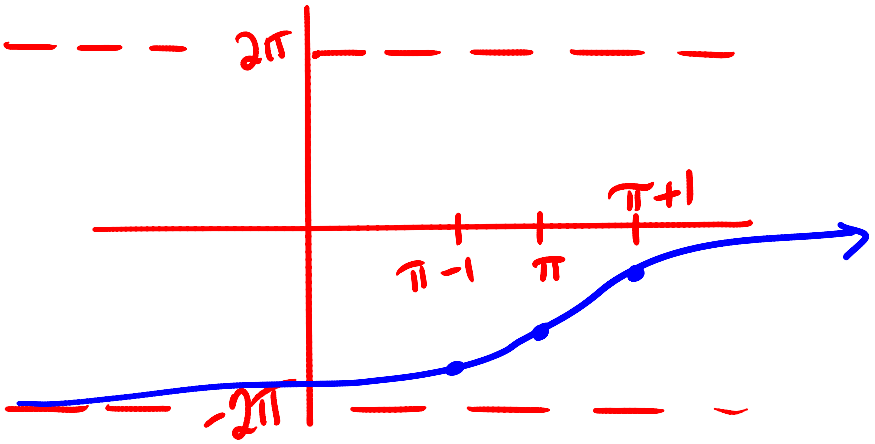
2. $y = 2\csc^{-1} x$



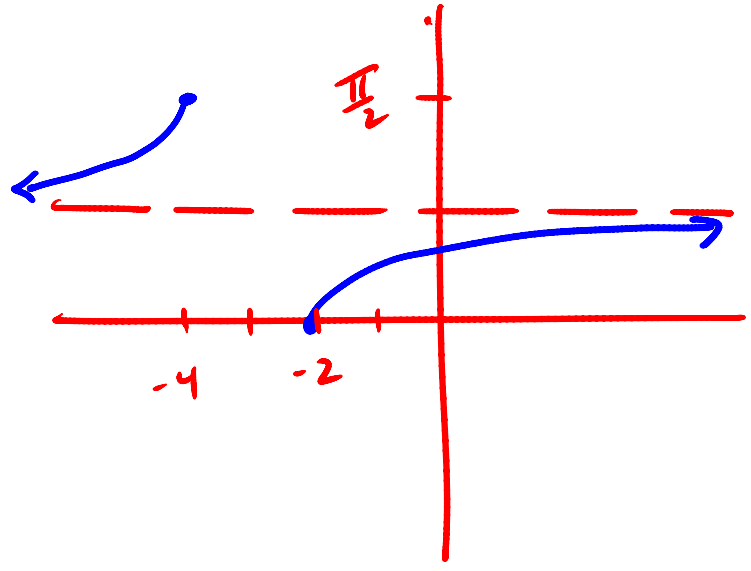
3. $y = 1 - \tan^{-1} x$



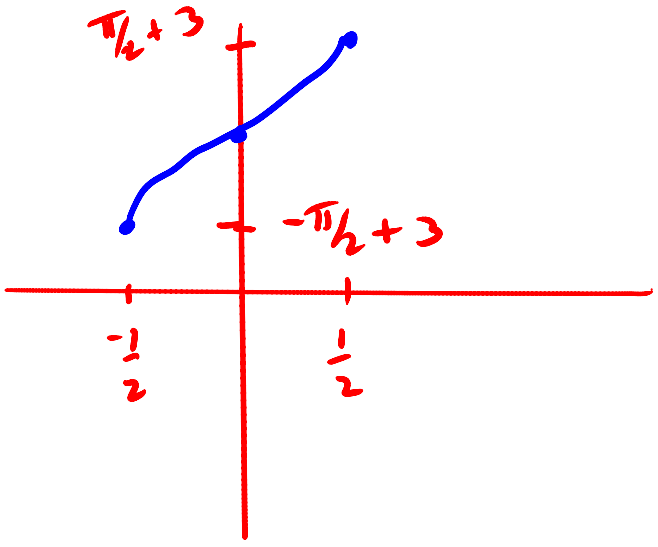
4. $y = -2\cot^{-1}(x - \pi)$



5. $y = \frac{1}{2}\sec^{-1}(x + 3)$



6. $y = 3 + \sin^{-1}(2x)$



State the domain and range of each function.

Domain Range

1. $y = 4\sin^{-1}(2x+1)$ $[-1, 0]$ $[-2\pi, 2\pi]$

2. $y = -2\cos^{-1}\left(\frac{1}{\pi}\left(x - \frac{\pi}{2}\right)\right)$ $[-\pi/2, 3\pi/2]$ $[-2\pi, 0]$

3. $y = 4\sin(3x) - 2$ $\mathbb{R}$ $[-6, 2]$

4. $y = -\tan^{-1}(x-3) + \frac{\pi}{2}$ $\mathbb{R}$ $(0, \pi)$

5. $y = 2\cot^{-1}\left(\frac{1}{3}x + 2\right)$ $\mathbb{R}$ $(0, 2\pi)$

6. $y = 4\csc(.5x + \pi)$ $\mathbb{R}$ except $x = 2\pi k$ $(-\infty, -4] \cup [4, \infty)$

7. $y = -\sec^{-1}(2x) - \frac{\pi}{2}$ $(-\infty, -\frac{1}{2}] \cup [\frac{1}{2}, \infty)$ $[-\frac{3\pi}{2}, -\pi) \cup (-\pi, -\frac{\pi}{2}]$