1. $\sin^{-1}(-1/2) = -\frac{\pi}{6}$

2. $\tan^{-1}(0) = 0$

3. $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right) = \frac{\pi}{6}$

4. $\cos\left(\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)\right) = \frac{\sqrt{3}}{2}$

5. $\sin^{-1}\left(\sin\left(\frac{7\pi}{4}\right)\right) = \sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$
$= -\pi/4$

6. $\arccos\left(-\frac{\sqrt{2}}{2}\right) = \frac{3\pi}{4}$

7. $\sin^{-1}\left(\sin\left(\frac{5\pi}{8}\right)\right) = \frac{3\pi}{8}$

8. $\sec^{-1}(-2) =$
$\cos^{-1}\left(-\frac{1}{2}\right)$

9. $\operatorname{arccsc}(\sqrt{2}) = \frac{\pi}{4}$

10. $\cot^{-1}(1) = \frac{3\pi}{4}$

11. $\sec^{-1}(4) =$
$\cos^{-1}\left(\frac{1}{4}\right) = 1.318$

12. $\operatorname{arccsc}\left(\frac{2\sqrt{3}}{3}\right) = \frac{\pi}{3}$

13. $\sec\left(\tan^{-1}\left(\frac{-4}{3}\right)\right) = \frac{5}{3}$

14. $\cos(\arcsin 5/13) = \frac{12}{13}$

15. $\sin^{-1}(\sin 1.2) = 1.2$

16. $\cot(\sin^{-1}(-0.1087)] = -9.145$

17. $\cos(\cos^{-1} 1.2) =$ not defined

18. $\sec\left(\sin^{-1}\frac{2\sqrt{5}}{5}\right) = \sqrt{5}$

19. $3\arcsin(x) = \pi$
$x = \sqrt{3}/2$

20. $4\csc^{-1}(x) = 2\pi$
$\csc^{-1}(x) = \pi/2$
$x = 1$

1

$$y = 4\cos\left(2\left(x + \frac{\pi}{2}\right)\right)$$

- Find the transformations.
- Graph. (Label the axes.)
- Find the domain, range, amplitude, and period.

2

$$f(x) = -\sin\left(\frac{1}{2}x\right) + 2$$

- Find the transformations
- Graph. (Label the axes.)
- Find the domain, range, amplitude, and period.

3

$$f(x) = \frac{1}{2}\sec\left(x - \frac{\pi}{4}\right)$$

- Find the transformations.
- Graph. (Label the axes.)
- Find the domain, range, asymptotes, and period.

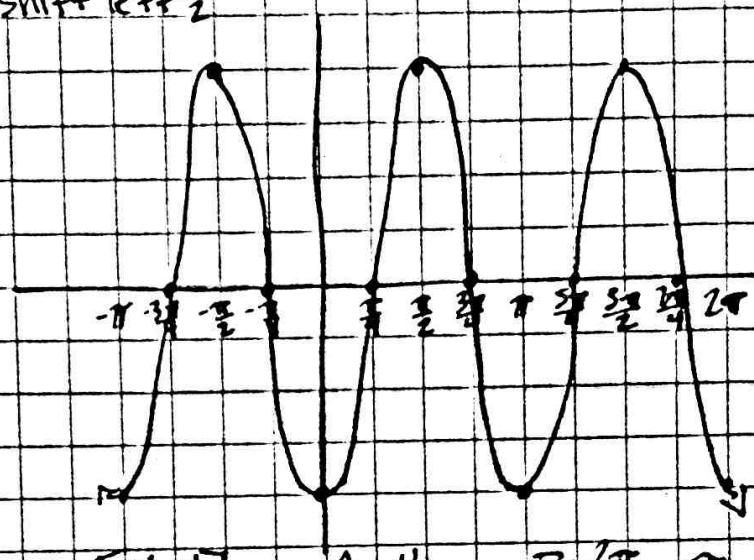
4

$$y = \tan\left(\frac{1}{4}x\right) - 3$$

- Find the transformations
- Graph. (Label the axes)
- Find the domain, range, asymtotes, and period.

① T: vertical stretch by 4
horizontal shrink by $\frac{1}{2}$
horizontal shift left $\frac{\pi}{2}$

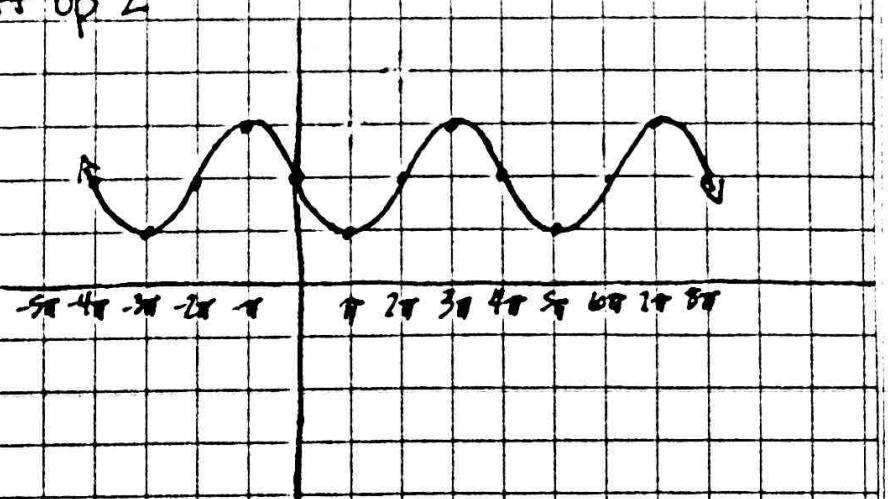
			X	Y
$-\frac{\pi}{2}$	0	0	1	4
$-\frac{\pi}{4}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$	0	0
0	$\frac{\pi}{2}$	π	-1	-4
$\frac{\pi}{4}$	$\frac{3\pi}{4}$	$\frac{3\pi}{2}$	0	0
$\frac{\pi}{2}$	π	2π	1	4



D: $(-\infty, \infty)$ R: $[-4, 4]$ A: 4 P: $\frac{2\pi}{2} = \pi$

② T: reflection over x-axis
horizontal stretch by 2
vertical shift up 2

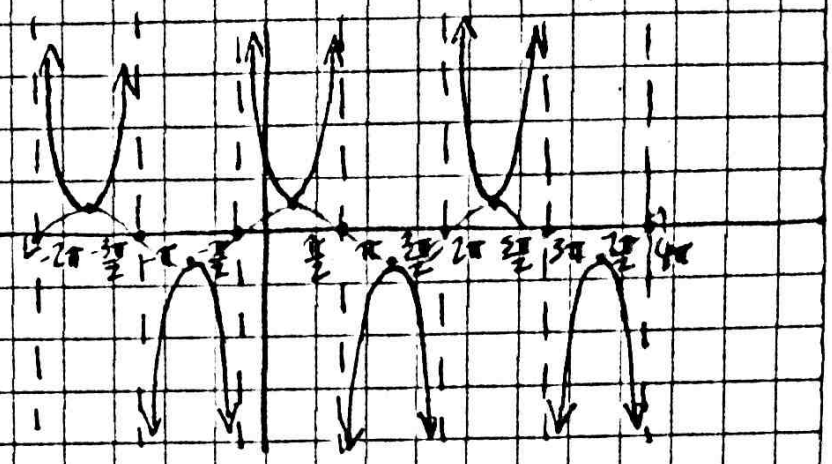
		X	Y	
0	0	0	0	2
π	$\frac{\pi}{2}$	1	-1	1
2π	π	0	0	2
3π	$\frac{3\pi}{2}$	-1	1	3
4π	2π	0	0	2



D: $(-\infty, \infty)$ R: $[1, 3]$ A: 1 P: $\frac{2\pi}{\frac{1}{2}} = 4\pi$

③ T: vertical shrink by $\frac{1}{2}$
horizontal shift right $\frac{\pi}{4}$

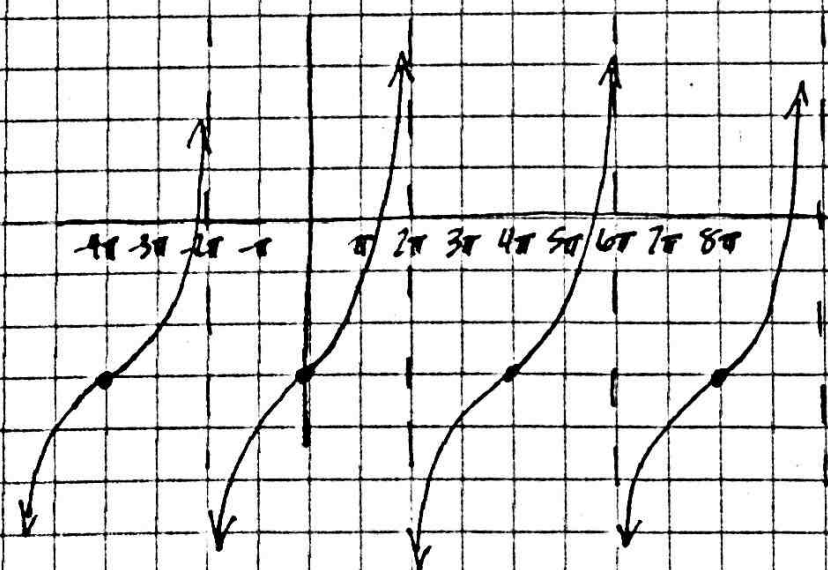
	X	cos(x)
$\frac{\pi}{4}$	0	1 $\frac{1}{2}$
$\frac{3\pi}{4}$	$\frac{\pi}{2}$	0 0
$\frac{5\pi}{4}$	π	-1 $-\frac{1}{2}$
$\frac{7\pi}{4}$	$\frac{3\pi}{2}$	0 0
$\frac{9\pi}{4}$	2π	1 $\frac{1}{2}$



D: $\mathbb{R}$ except $x=\frac{3\pi}{4}+k\pi$ R: $(-\infty,-\frac{1}{2}]\cup[\frac{1}{2},\infty)$ A: $x=\frac{3\pi}{4}+k\pi$ P: 2π

④ T: horizontal stretch by 4
vertical shift down 3

	X	y
0	0	0 -3
2π	π	und und
4π	2π	0 -3
6π	3π	und und
8π	4π	0 -3



D: $\mathbb{R}$ except $x=2\pi+4k\pi$ R: $(-\infty,\infty)$ A: $x=2\pi+4k\pi$ P: $\frac{\pi}{\frac{1}{4}}=4\pi$