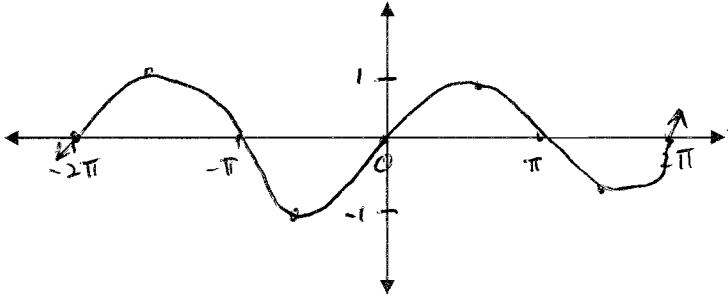


Pre-Calculus
Chapter 7 – REVIEW

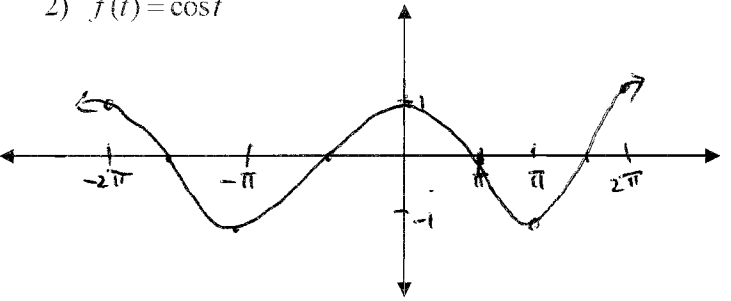
Name Key Period _____

Graph all six trigonometric functions from -2π to 2π . Label the axes.

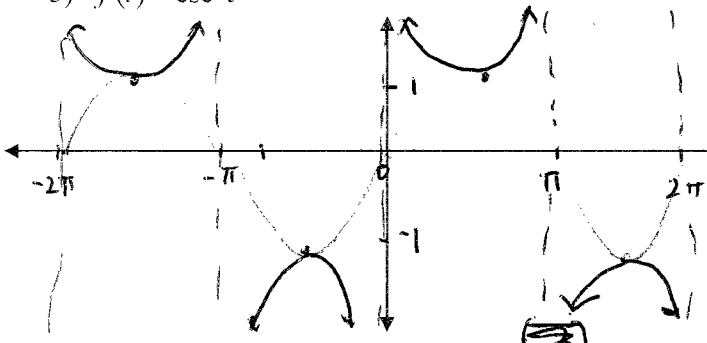
1) $f(t) = \sin t$



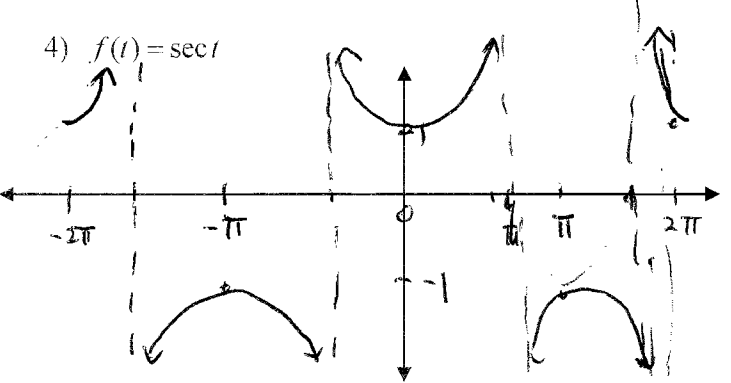
2) $f(t) = \cos t$



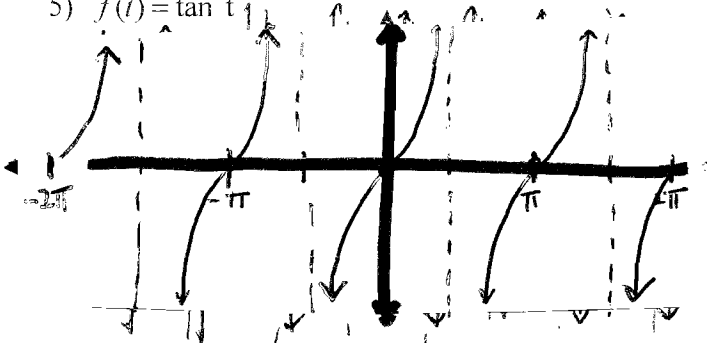
3) $f(t) = \csc t$



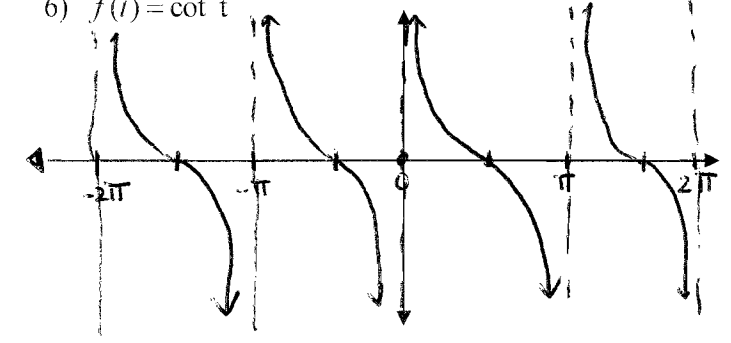
4) $f(t) = \sec t$



5) $f(t) = \tan t$

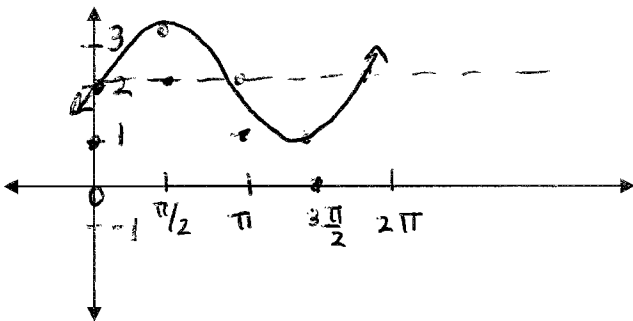


6) $f(t) = \cot t$

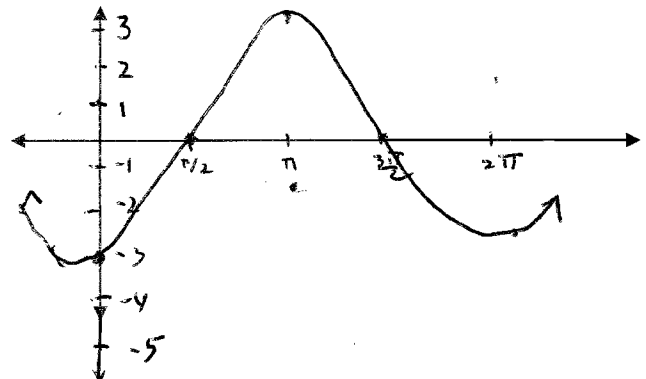


Graph Problems 7-12 in one fundamental period. Label the axes.

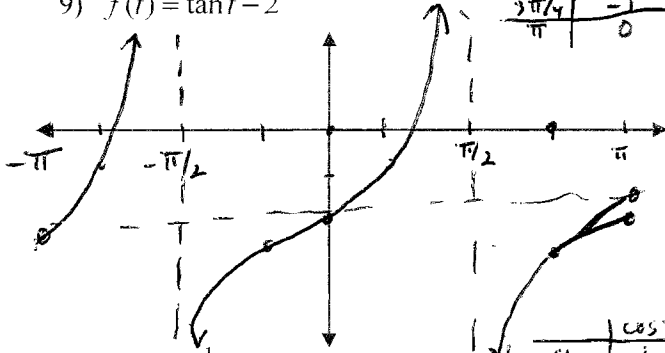
7) $f(t) = \sin t + 2$



8) $f(t) = -3\cos t$

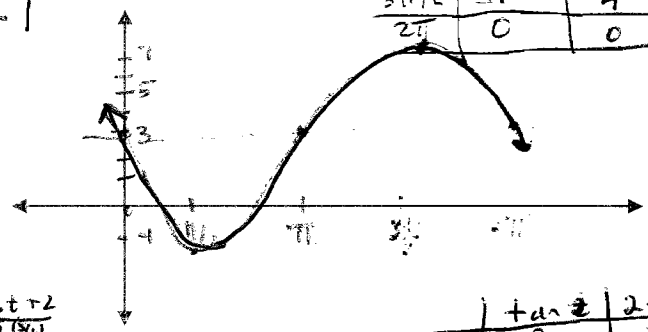


9) $f(t) = \tan t - 2$



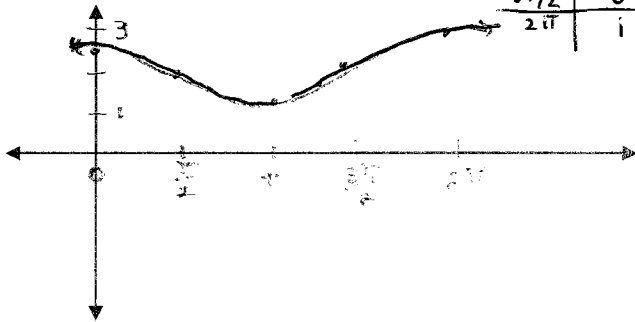
	$\tan x$	$\tan x - 2$
0	0	-2
$\pi/4$	1	-1
$\pi/2$	und	und
$3\pi/4$	-1	-3
π	0	-2

10) $f(t) = -4\sin t + 3$



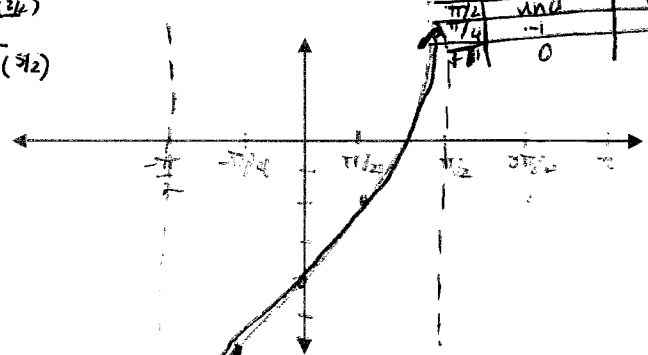
	$\sin t$	$-4\sin t$	$-4\sin t + 3$
0	0	0	3
$\pi/2$	1	-4	-1
π	0	0	3
$3\pi/2$	-1	4	7
2π	0	0	3

11) $f(t) = \frac{1}{2}\cos t + 2$



	$\cos t$	$\frac{1}{2}\cos t + 2$
0	1	2.5 (5/2)
$\pi/2$	0	2
π	-1	1.5 (3/2)
$3\pi/2$	0	2
2π	1	2.5 (5/2)

12) $f(t) = 2\tan t - 4$



	$\tan t$	$2\tan t - 4$
0	0	-4
$\pi/4$	1	-2
$\pi/2$	und	und
$3\pi/4$	-1	-6
π	0	-4

Describe the transformations to the basic trigonometric graphs. Write one description per line.

13) $f(t) = -\frac{1}{3}\cos 4(t+\pi) - 1$

- Down 1
- Reflected on x-axis
- Vertical compression by $\frac{1}{3}$
- Horizontal compression by $\frac{1}{4}$
- Left π

14) $f(t) = 4\sin\left(-\frac{1}{3}\right)t + 2$

- Up 2
- Vertical stretch by 4
- Horizontal ~~comp~~ stretch by 3
- ~~Right~~ ~~stretch~~ Reflecting of y-axis

Write the equations in standard form the find the amplitude, period, vertical shift and phase shift.

15) $y = 5 + 2\sin \pi(t+1)$

amplitude: 5 period: 2 phase shift: $\frac{\pi}{2}$ Left vertical shift: up 5

16) $y - 1 = -4\cos(2t + \pi)$

amplitude: 4 period: π phase shift: $\frac{\pi}{2}$ Left vertical shift: up 1

17) $y + 1 = 4\tan\left(\frac{1}{5}t - \pi\right)$

amplitude: none period: 5π phase shift: 5π Right vertical shift: down 1

Write an equation for the periodic function with the following changes:

18) $y = \sin t$

answer: $\frac{1}{3}\sin\left(\frac{2}{3}x - \frac{\pi}{2}\right) - 3$

a: $\frac{1}{3}$ period: 3π phase shift: right $\frac{\pi}{2}$ vertical shift: down 3

20) $y = \tan t$

answer: $3\tan(2x + \pi) - 1$

19) $y = \cos t$

answer: $-2\cos(6\pi x + 3) + 1$

a: -2 period: $\frac{1}{3}$ phase shift: left 3 vertical shift: up 1

a: 3

period: $\frac{\pi}{2}$

phase shift: left π vertical shift: down 1