Name

Signature

Problem	Total Points	Score
1	20	
2	20	
3	10	
4	10	
5	20	
6	10	
7	20	
Total	110	

- You are not permitted to use a calculator on this exam.

- In order to receive full credit, you must show your work. Be wary of doing computations in your head. Instead, write out your computations on the exam paper.

- If you need more room, use the backs of the pages and indicate to the grader that you have done so.

- Raise your hand if you have a question.

- Good luck!

1 (20 points)

(a) (5 points)   Find the exact value of $\tan(180°)$.

(b) (5 points)   Find the value of $4\sin(33°)\csc(33°) - 7\sec(58°)\cos(58°)$.

(c) (10 points)   Find the exact value of $\sin(990°)$.

2 (20 points)   Determine the amplitude, period, and phase shift of $y = \frac{1}{2}\sin(\pi x + \pi)$. Then graph the function (you should graph the function for more than one period).

3 (10 points)

(a) (5 points) Write an equation of a cosine function with amplitude is 4, period is $\frac{\pi}{3}$, and phase shift is $\frac{1}{2}$.

(b) (5 points) Fnd the asymptotes of $y = 2\csc(2x)$ on the interval $[0, \pi]$.

4 (10 points)

(a) (5 points) What is the domain of tangent?

(b) (5 points) Why do we need to do restrictions on the domains of trigonometric functions to define inverse trigonometric functions?

5 (20 points)   Graph the function $y = 2\cot(x - \frac{\pi}{2})$.

$\boxed{6}$ (10 points)   The point $P = (-\frac{5}{13}, -\frac{12}{13})$ is a point on the unit circle corresponding to real number t. Find the exact value of $\tan(t)$.

$\boxed{7}$ (20 points)

(a) (10 points)   Find the exact value of $\sin^{-1}(-\frac{\sqrt{3}}{2})$.

(b) (10 points)   Find the exact value of $\cos^{-1}(-\frac{1}{2})$.