Math 1113 **Exam 3** Spring 2017

Instructor: Sal Barone

Name: _____

GT username: _____

1. No books or notes are allowed.
2. No electronic devices are allowed.
3. Show all work and fully justify your answer to receive full credit.
4. Please BOX your answers.
5. Good luck!

Page	Max. Possible	Points
1	28	
2	28	
3	24	
4	20	
Total	100	

1. Solve for x, evaluate, or write in exponential form. (5 pts. each)

(a) $\log_4 .25 = -1$

(b) $\log_{100}(100,000)$

(c) $\log_5(3x+1) = 2$

(d) $\log_3(x^2 - 25) = 2$

2. State the domain and range and sketch the graph of $y = \ln(x+4)$. (8 pts.)

3. Given that $\log x = 4$, $\log y = -1$, $\log 2 \approx 0.3$ and $\log 3 \approx 0.48$, evaluate $\log \sqrt[3]{2x^6 \cdot y^4}$. (8 pts.)

4. Find the exact value of $\sec(-\frac{\pi}{2})$ and $\sin(30\,^\circ)\csc(60\,^\circ)$. (10 pts.)

5. If $\sin\theta = -\frac{3}{5}$ and θ is in Quadrant IV, find the other five function values of θ. (10 pts.)

6. Sketch the graph of $y = \sin\left[2\left(x - \frac{\pi}{2}\right)\right]$ over two periods. Also, state the amplitude, period, and phase shift of the function. (8 pts.)

7. Graph the function $y = \tan(x)$ over three periods. (8 pts.)

8. Graph the function $y = \sec(x)$ over three periods. (8 pts.)

9. Find the exact value of $y = \sin^{-1}\left(\frac{4\sqrt{3}}{8}\right)$ and $\tan^{-1}(-\frac{1}{2})$. (10 pts.)

10. Find the exact value of $\sec\left(\cos^{-1}\frac{4}{5}\right)$. (10 pts.)