Name _____ **DUE DATE:** _____

Directions:

- *Read each problem carefully and use your knowledge of mathematics to determine your answer.*
- *In order to receive FULL CREDIT you must either SHOW ALL WORK or EXPLAIN how you got your answer!! PLEASE NOTE: A multiple choice answer alone without any work will only receive half credit.*

Question	Your Work/Explanation
1) Find the exact value, in radians, of the real number θ between $(0,2\pi)$ where $sin\theta = -\frac{\sqrt{3}}{2}\ and\ cos\theta > 0$	
2) Eliminate the parameter: $x = -5cost, \qquad y = 5sint$	
3) Find the sum of $\sum_{n=1}^{4} \frac{6}{n+1}$	

4) Find the point (x, y) on the unit circle that corresponds to the real number $t = \frac{11\pi}{3}$? (a) $\left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$ (b) $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$ (c) $\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$ (d) $\left(\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$	
5) Evaluate $sin\theta sec\theta - cos\theta$ if $= \frac{4\pi}{3}$.	
6) Eliminate the parameter and find a corresponding rectangular equation: $x = 3t + 1$ and $y = 2t$. (a) $y = \frac{2}{3}x - \frac{2}{3}$ (b) $y = \frac{2}{3}x - 1$ (c) $y = \frac{1}{6}x + \frac{1}{6}$ (d) $y = \frac{2}{3}x - 2$	
7) Convert the point $\left(\sqrt{3}, \frac{\pi}{6}\right)$ to rectangular coordinates.	

8) Which of the following is the $\lim_{x\to -1} \frac{2x^2+x-4}{x-1}$?

(a) -1 (b) 0 (c) 2 (d) $\frac{3}{2}$

9) Find the partial fraction decomposition

$$\frac{7x-2}{3x^2-x}$$

10) Find the first five terms of the sequence $a_n = (-1)^n(2n+9)$.

(a) -11,-13,-15,-17,-19,…

(b) -11,13,-15,17,-19,…

(c) -11,2,-13,4,-15,…

(d) -11,-24,-39,-56,-75,…

11) Simplify: $\dfrac{\frac{1}{x-2}-\frac{1}{2}}{x-4}$

12) Evaluate the six trig functions of the real number $t = -\frac{9\pi}{4}$.
