Math101 Name:

Quiz#1 ID No:

Code 001 Serial No:

1- The displacement (in meter) of a particle moving in a straight line is given by $s(t) = 3t^2 - 4t + 1$, where t is measured (in seconds).

a) Find the average speed over the time interval [0, 5].

b) Use limits to find the instantaneous speed of the particle when t=3.

2- Evaluate the limit, if it exists

$\lim_{x\to 1/2}\left(\frac{2}{2x-1} - \frac{3}{2x^2+x-1}\right)$.

3- Given that $\lim_{x\to 2}\left(3x-\frac{2}{5}\right)=\frac{28}{5}$ and $\epsilon = 0.009$. Find δ (the largest possible) that satisfies the condition given in the $\epsilon-\delta$ definition of a limit.

4- Use Sandwich Theorem, to find

$$\lim_{x\to 0}\left(2\pi - x + 5x^2\cdot \sin\frac{\pi}{x}\right).$$