September 8,2015

QUIZ♯1 Math102-sec 9.

Net Time Allowed: 15 minutes

Name: **ID ♯ :** **Serial ♯:**

Exercise1:(05 points)

Let $$S = \lim_{n \longrightarrow \infty} \sum_{i=1}^{n} \frac{5}{n} \sqrt{5 + \frac{3}{n} i}\,.$$

1)- Write S as a definite integral (**Justify your answer!**).
2)- Evaluate the obtained integral in 1).

Exercise2:(05 points)

Let f be a continuous function on $[-\frac{3}{2}, x]$ with $f(-\frac{3}{2}) = 0$, and F, G two differentiable functions such that: $F(x) = \displaystyle\int_{-\frac{3}{2}}^{x} f(t)\,dt$ and $G(u) = \displaystyle\int_{-\frac{3}{2}}^{u} e^{-t} F(t)\,dt$.

Find $G'(-\frac{3}{2}) + G''(-\frac{3}{2})$. **Justify clearly your answer !**