

Quiz 4

Name:

ID #:

Section 9

Serial #:

a. (3 points) Find $\lim_{x \rightarrow \infty} \left(1 - \frac{1}{x}\right)^{2x}$.

b. (5 points) Find the time interval(s) at which an object is speeding up, if the object moves on a vertical line so that its coordinate at time t is given by $s = t^3 - 12t + 3$, $t \geq 0$ where t in seconds and s in meters.

- c. (7 points) An airplane takes off at an angle of 30 degrees, flying at 160 ft/sec. in a direction that will take it directly over an observer at ground level, 800 feet from the take off point. Find the rate of change of the angle of elevation between the observer and the plane when the angle of elevation is 60 degrees before the plane passes over the observer.

With My Best Wishes

Quiz 4

Name:

ID #:

Section 11

Serial #:

a. (3 points) Find $\lim_{x \rightarrow \infty} \left(1 - \frac{\pi}{x}\right)^{\frac{x}{3}}$.

b. (5 points) Find the distance moved by an object when the velocity of the object is 15 m/sec., if the object moves on a vertical line so that its coordinate at time t is given by $s = t^3 - 12t + 3$, $t \geq 0$.

- c. (7 points) An airplane takes off at an angle of 30 degrees, flying at 160 ft/sec. in a direction that will take it directly over an observer at ground level, 800 feet from the take off point. Find the rate of change of the angle of elevation between the observer and the plane when the angle of elevation is 60 degrees before the plane passes over the observer.

With My Best Wishes