

Math101

Name:

Quiz#1

ID No:

AAAAA

Serial No:

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

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

b) Use limits to find the instantaneous velocity of the particle when $t=4$.

2- Evaluate the limit, if it exists

$$\lim_{x \rightarrow -2} \left(\frac{x^3 - 4x}{x^2 - x - 6} \right).$$

3- Use Sandwich Theorem, to find

$$\lim_{x \rightarrow 5} \left((x - 5)^{60} \cdot \sin \frac{\pi}{6 - x^6} \right).$$

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1- Evaluate the limit, if it exists

$$\lim_{x \rightarrow -2} \left(\frac{x^3 - 4x}{x^2 - x - 6} \right).$$

2- Use Sandwich Theorem, to find

$$\lim_{x \rightarrow 3} \left((x - 3)^{60} \cdot \sin \frac{\pi}{6 - x^6} \right).$$

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

c) Find the average velocity over the time interval $[0, 6]$.

d) Use limits to find the instantaneous velocity of the particle when $t=2$.