**Exercises for The National Holiday**

**(Thursday, February 8, 2024)**

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Class: SE1917.

We define: ***m*** *is the second-to-last digit of the student ID.*

***n*** *is the last digit of the student ID.*

**Q1.**

Given the function .

Find ?

Answer the following questions:

The left-limit  of at is: -5,656854419

The right-limit  of at is: -5,656854259

The value of  is: -5,656854249

Does there exist a limit at ? (Yes or No)…………Yes……………

Is it continuous at ? (Yes or No) …………Yes……………

**Q2.**

If . Find  ?

Answer: ………………(-4)\*7\*(7x+30)^-5…………………………

Hint: , , .

(*Have no idea how to use a* *calculator? If anyone is knowledgeable about their usage, please share your insights!*)

**Q3.**

A rocket is fired vertically upward from the ground. The distance *S*(*t*) in feet that the rocket travels from the ground after *t* seconds is given by



Find the **acceleration** (*ft*/*s*2) in of the rocket 2 seconds after being fired.

Answer: 134760957,1 (Give your answer to 4 decimal places)

Hint: Acceleration is the second derivative of distance or distance.

**Q4.** Evaluate . What is a anti-derivative?

Answer: ………14,76944167………….………………………………………………..

Hint: (It is recommended that you do not use a calculator for this Question).

Use the substitution method .

**(\*)** If you cannot do this problem **Q4**, please calculate the following integral to replace problem **Q4**: .

**Q5.**

Estimate the area of under the graph of  from *x* = 0 to *x* = 3, using ***seven*** approximating rectangles and left endpoints.

Answer: …………52,83673469……………………………… (Give your answer to 9 decimal places)

**How to submit your assignment:**

You just need to fill in your answers into this Word or PDF file. Reminder: ***Fill in only the answers***. Then submit the filled-in Word or PDF file via email to *dungttm12@fpt.edu.vn* with the email subject titled “**TET Exercises\_MSSV**”.

MSSV is your ID student.

**Have a good day!**

