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**MST129: Applied Calculus**

**Tutor Marked Assignment**

Cut-Off Date: December --, 2021 Total Marks: 40

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**Student Name :** \_\_\_Nancy Al Aswad - 2180385

**Signature :** \_\_\_\_\_\_\_\_ Nancy \_\_\_\_\_\_\_\_\_

**Date :** \_\_\_\_\_01/12/2021 \_\_\_\_\_\_

**MT129 TMA Feedback Form**

**[A] Student Component**

**Student Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Student Number : \_\_\_\_\_\_\_\_\_\_\_\_**

**Group Number : \_\_\_\_\_\_\_**

**[B] Tutor Component**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Comments** | | **Weight** | | **Mark** |
| **Q\_1** |  | | **5** | |  |
| **Q\_2** |  | | **5** | |  |
| **Q\_3** |  | | **5** | |  |
| **Q\_4** |  | | **5** | |  |
| **Q\_5** |  | | **5** | |  |
| **Q\_6** |  | | **5** | |  |
| **Q\_7** |  | | **5** | |  |
| **Q\_8** |  | | **5** | |  |
|  |  | | **40** | |  |
|  | |  | |  |  | |
| **General Comments:** | | | | | | |
|
|
|
|  | | **Tutor name:** | |  |  | |

# Answer for Question (1):

**===============**

**First step**: I solve the composition equation by using the rule as follow

=

**Second step**: I solve the domain of

2.) The

So the and the

So finally the

# Answer for Question (2):

**===============**

**============**

1. ***.***

**=========**

# Answer:

**=====**

*so the equation became*

# Answer for Question (3):

**===============**

# Answer for Question (4):

**===============**

**After get the (2) from all sides I got: -**

**Now make uniform for the denominator**

**And finally for working in the horizontal tangent line I use the formula**

=

**Multiply them**

**The result we got are :**

**Make aggregation to simplify the result as much as we can with below steps**

# Answer for Question (5):

**===============**

**so ,**

**And**

So the Intervals are:

==================

1. () where is increasing.
2. where is decreasing.

and **minimum** not founded

# Answer for Question (6):

**===============**

I will represent the **(large volume)** with **(L) ,** And as I got square sheet of cardboard with each side I will use the below

**Now**

# Answer for Question (7):

**==============**

and simplify the result as in the below steps:

**------------🡪**

*Now we know that* So we compensate it as ;

**Q­−8:****[5 marks]** Consider the function . Using the logarithmic differentiation find an equation of the line tangent to the graph of at .

# Answer for Question (8):

**==============**

The equation of the line: