

**LEBANESE AMERICAN UNIVERSITY**

**Department of Computer Science and Mathematics**

**MTH102 – Calculus II**

**Spring 2015**

**Exam 2**

**(April 07, 2015)**

**NAME: ID:**

**Duration: 80 minutes**

Instructor: Ms. Liwa Sleiman

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**This exam is comprised of 8 problems.**

**Answer the questions in the space provided for each problem.**

**If more space is needed, use the back of the page.**

**Make sure to justify all your answers.**

**Graphic calculators are NOT allowed.**

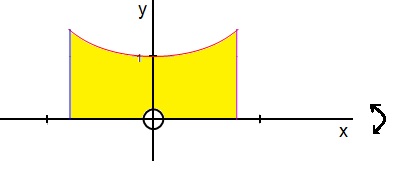
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|  |  |  |
| --- | --- | --- |
| **Problem** | **Grade points** | |
| I | 15 % |  |
| II | 10 % |  |
| III | 07 % |  |
| IV | 15 % |  |
| V | 21 % |  |
| VI | 22 % |  |
| VII | 05 % |  |
| VIII | 05 % |  |
| **Total** | **100** |  |

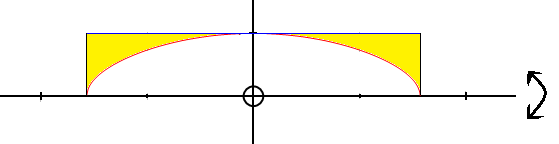
1. **DO NOT evaluate**

Find the volume of the solid generated by revolving the region about the given line

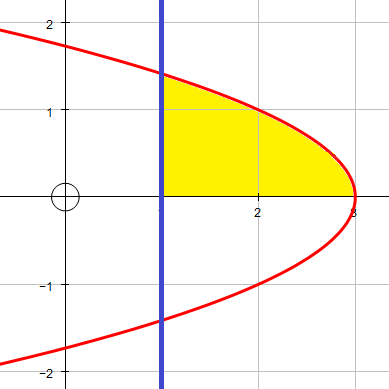
1. about x– axis

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1. about x– axis

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1. about x– axis

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1. Find the length of the curve
2. Consider the functions

and

Show that .

1. Consider the function
2. Find .
3. Find using two methods.
4. Find the derivative

1. using logarithmic differentiation
2. Integrate



7. Solve the separable differential equation
8. Show that is a solution of the differential equation