***Integration Project:***

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| |  | | --- | | Working in groups, students are given two problems which they must find the area under a curve in each. For each problem the students must neatly set up a graph representing the area under the curve and set up a definite integral to find the area. They must list out all the steps when solving the problem algebraically.  **Problem 1:** Find the net area between y = sin*x* and the x-axis from x=0 to x=2π  **Answer 1:**  http://www.mathwords.com/a/a_assets/area%20under%20curve%20ex2graph.gif http://www.mathwords.com/a/a_assets/area%20under%20curve%20ex2work.gif  **Problem 2:** Find the area between y = 7 – x2 and the x-axis between x= -1 and x= 2  **Calculus : Integration Project**  Teacher Name: **Mr. O’Donnell**    Student Name:     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

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| CATEGORY | **4** | **3** | **2** | **1** |
| **Mathematical Concepts** | Explanation shows complete understanding of the mathematical concepts used to solve the problem(s). | Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s). | Explanation shows some understanding of the mathematical concepts needed to solve the problem(s). | Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written. |
| **Mathematical Errors** | 90-100% of the steps and solutions have no mathematical errors. | Almost all (85-89%) of the steps and solutions have no mathematical errors. | Most (75-84%) of the steps and solutions have no mathematical errors. | More than 75% of the steps and solutions have mathematical errors. |
| **Graphs** | Graphs are clear and greatly add to the reader's understanding of the procedure(s). | Graphs are clear and easy to understand. | Graphs are somewhat difficult to understand. | Graphs are difficult to understand or are not used. |