Recitation Exam 1	● Graded
Student	
Ivan Wang	
Total Points	
2 / 5 pts	
Question 1	
(I1) - Question 1	<b>0</b> / 1 pt
✓ -1 pt (P) Progressing	
$oxed{3}$ intergal of $U^{-1}$ should be $ln u $	
Question 2	
(I2) - Question 2	■ 0/1 pt
✓ -1 pt (P) Progressing	
4 try to avoid dividing by a variable	
5 incorrect substitution step	
Question 3	
(I3) - Question 3	<b>0</b> /1 pt
✓ -1 pt (P) Progressing	
1 Incorrect	
2 Incorrect	
Question 4	
(I4) - Question 4	1 / 1 pt
✓ - 0 pts (M) Mastery	
Question 5	
(I5) - Question 5	<b>1</b> / 1 pt
✓ - 0 pts (M) Mastery	

Student ID: 5041432 |

Name: Ivan Wang

## MTH 142 — Recitation Exam #1

## **Directions**

- 1. You're going to do great!
- 2. You do not need to simplify your answer, unless otherwise indicated.
- 3. Show all necessary work, unless otherwise indicated.
- 4. Use correct notation.

## **Academic Integrity**

Take this exam with integrity. Don't cheat.

- 1. No calculators or electronic devices are allowed.
- 2. No other resources are allowed during the exam (this means notes, formula sheets, people, websites, etc.)

Any academic integrity violation will result in at least a 0 on this exam.

## Grading

Each question will be graded on the M/P/U scale described in the course syllabus.

Mastery (M): All necessary work is shown, your answer is correct, and correct mathematical notation is used. (Small non-calculus mistakes that do not significantly detract from the solution may be okay.)

**Progressing (P):** Any question earning this score **can be attempted again** during the follow-up exam. This gives you another opportunity to demonstrate Mastery. Future attempts will not necessarily be the exact same question, but will assess the same learning outcome.

Unsatisfactory (U): Any question earning this score cannot be attempted again.

Q1: (I1) Calculate the indefinite integral: 
$$\int \frac{4e^x}{5 + 2e^x} dx$$

$$\int 4e^{x} \cdot (5+2e^{x})^{2} dx$$

$$\int (4e^{x} \cdot (5+2e^{x})^{2} dx$$

**Q2:** (I2) Calculate the definite integral: 
$$\int_0^1 16x^3 \sin(8-x^4) dx$$

$$U(1) = Sin(7)$$
  
 $U(0) = Sin(-8)$   
 $U(0) = Sin(-8)$ 

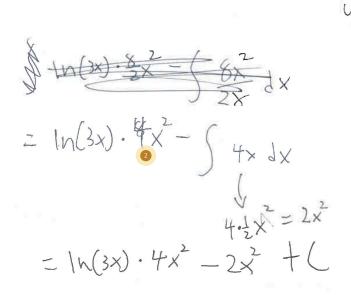
$$= \frac{-4}{(3(6-4))} \left(\frac{1}{2} \sin^2(7)\right) - \left(\frac{1}{2} \sin^2(-8)\right)$$
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$$\frac{dy}{cos(8-x^4)} = -4x^3 dx$$

$$-4\left(\frac{dy}{cos(8-x^4)}\right) = (4x^3 dx) - 4$$

$$-4\left(\frac{dy}{cos(8-x^4)}\right) = 16x^3 dx$$

**Q3:** (I3) Calculate the indefinite integral:  $\int (8x - 4) \ln(3x) dx$ You must explicitly state u, du, v, dv as part of your work.



$$U = \ln(3x) - dv = 8x - 4 dx$$

$$du = \frac{1}{3x} \cdot 3 = \frac{3}{3x} \quad V = \frac{8}{2} \cdot \frac{2}{3x}$$

$$= \frac{1}{x} dx$$

EIATE?

 $u = 3x + 1 - 1 = e^{3x} dx$  du = 3 dx  $V = \frac{1}{3}e^{3x}$ 

**Q4:** (**I4**) Calculate the definite integral:  $\int_{-1}^{3} (3x+1)e^{3x} dx$  You must explicitly state u, du, v, dv as part of your work.

 $\frac{1}{3}(3x+1)e^{3x} - \int e^{3x} dx$ 

$$= \frac{1}{3}(3x + 1)e^{3x} - \frac{1}{3}e^{3x} dx$$

$$= \left(\frac{1}{3}(9+1)e^{9} - \frac{1}{3}e^{9}\right) - \left(\frac{1}{3}(-3+1)e^{3} - \frac{1}{3}e^{3}\right)$$

**Extra Space** - Clearly indicate in the original answer space if there is any work you want graded here.