



**Quiz 4 (8 a.m.)**  
**MAC3309 Mathematical Analysis**

<b>Topic</b>	Riemann sum & Change variable	<b>Score</b>	10 marks
<b>Time</b>	30 minutes (13 <sup>th</sup> Week)	<b>Semester</b>	2/2023
<b>Teacher</b>	Assistant Professor Thanatyod Jampawai, Ph.D. Division of Mathematics, Faculty of Education,	Suan Sunandha Rajabhat University	

**Name** ..... **ID** ..... **Sec** .....

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1. **(5 marks)** Let  $f(x) = 6x(x - 1)$  where  $x \in [0, 1]$  and

$$P = \left\{ \frac{j}{n} : j = 0, 1, \dots, n \right\}$$

be a partition of  $[0, 1]$ . Find the **Riemann Sum** of  $f$  and  $I(f)$ .

2. **(5 marks)** Let  $f$  be integrable  $\mathbb{R}$  and  $\int_{-1}^0 f(x) dx = 67$ . Use the change variable to compute

$$\int_1^e f(x \ln x - x) \cdot \ln x^2 dx.$$



## Quiz 4 (1 p.m.) MAC3309 Mathematical Analysis

**Topic** Riemann sum & Change variable **Score** 10 marks  
**Time** 30 minutes (13<sup>th</sup> Week) **Semester** 2/2023  
**Teacher** Assistant Professor Thanatyod Jampawai, Ph.D.  
Division of Mathematics, Faculty of Education, Suan Sunandha Rajabhat University

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1. (5 marks) Let  $f(x) = 3x(x + 2)$  where  $x \in [0, 1]$  and

$$P = \left\{ \frac{j}{n} : j = 0, 1, \dots, n \right\}$$

be a partition of  $[0, 1]$ . Find the **Riemann Sum** of  $f$  and  $I(f)$ .

2. (5 marks) Let  $f$  be integrable  $\mathbb{R}$  and  $\int_0^1 f(x) dx = 67$ . Use the change variable to compute

$$\int_0^1 f(e^x - xe^x) \cdot xe^x dx.$$



## Quiz 4 (Addition) MAC3309 Mathematical Analysis

**Topic** Riemann sum & Change variable **Score** 10 marks  
**Time** 30 minutes (13<sup>th</sup> Week) **Semester** 2/2023  
**Teacher** Assistant Professor Thanatyod Jampawai, Ph.D.  
Division of Mathematics, Faculty of Education, Suan Sunandha Rajabhat University

**Name** ..... **ID** ..... **Sec** .....

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1. (5 marks) Let  $f(x) = 6(x - 1)(x + 1)$  where  $x \in [0, 1]$  and

$$P = \left\{ \frac{j}{n} : j = 0, 1, \dots, n \right\}$$

be a partition of  $[0, 1]$ . Find the **Riemann Sum** of  $f$  and  $I(f)$ .

2. (5 marks) Let  $f$  be integrable  $\mathbb{R}$  and  $\int_1^{1+e} f(x) dx = 66$ . Use the change variable to compute

$$\int_1^e f(\ln(xe^x)) \cdot \frac{1+x}{2x} dx.$$