

Calculus II

Name: _____

Study Guide 8

Class: _____

Due Date: _____

Score: _____

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

1. (5 points) Find $\int_{\ln 4}^{\ln 36} \sqrt{e^x} dx$

1. _____

2. (4 points) Find $\int_1^2 10^x dx$

2. _____

3. (3 points) Find $\frac{d}{dx} \int_0^{x^2} \frac{1}{2}|t| dt$

3. _____

4. (5 points) Find the length of the graph of $f(x) = 2x + 3$ for $1 \leq x \leq 4$.

4. _____

5. (6 points) Find the length of the graph of $f(x) = x^3 + \frac{1}{12x}$ for $1 \leq x \leq 3$.

5. _____

6. (6 points) Find $f(0)$, $f'(0)$ and $f''(0)$ for $f(x) = \int_0^{x^2} \frac{1}{1 + \sin \sqrt{t}} dt$.

6. _____

7. (6 points) Find the first derivative of $f(x) = \tan^{-1}(x - \sqrt{1 + x^2})$.

7. _____

8. (5 points) Evaluate $\int_0^{\pi/2} \frac{\sin x}{1 + \cos^2 x} dx$.

8. _____

9. (5 points) Evaluate $\int_1^4 \frac{1}{\sqrt{x}(1+x)} dx$.

9. _____

10. (5 points) Evaluate $\int \frac{1}{\sin^{-1} x \sqrt{1-x^2}} dx$.

10. _____