

Calculus II

Name: _____

Study Guide 19

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. (4 points) Evaluate: $\int_1^{\infty} \frac{4}{(4x-1)^4} dx$

1. _____

2. (5 points) Evaluate: $\int_2^{\infty} \frac{1}{x^2 + 2x - 3} dx$

2. _____

3. (5 points) Evaluate: $\int_1^{\infty} \frac{e^{-\sqrt{x}}}{\sqrt{x}} dx$

3. _____

4. (5 points) Evaluate: $\int_2^{\infty} \frac{x}{e^{4x}} dx$

4. _____

5. (5 points) Clearly state the Comparison Test for improper integrals.

6. (5 points) Evaluate: $\int_2^3 \frac{1}{\sqrt{3-x}} dx$

6. _____

7. (5 points) Evaluate: $\int_0^2 \frac{1}{\sqrt{4-x^2}} dx$

7. _____

8. (4 points) Evaluate: $\int_1^\infty \frac{1}{x} dx$.

8. _____

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

9. _____

10. (4 points) Evaluate: $\int_1^\infty \frac{1}{x^2} dx$.

10. _____

11. (4 points) What can you conclude about $\int_1^\infty \frac{1}{x^p} dx$? Be very specific.