

PAIRS CHECK & VERIFY!

Directions: Solve the problems on your side of the paper. Write your final answer in the box provided. When finished, you must verify that your partner's answers are correct. This assignment will be graded as **one grade**.

NAME:	NAME:
1. $\int_0^2 \frac{x}{1-x} dx$ <p style="text-align: center;">Diverges</p>	1. $\int_{-2}^0 \frac{1}{\sqrt[3]{x+1}} dx$ <p style="text-align: center;">0</p>
2. $\int x^2 e^x dx$ <p style="text-align: center;">$x^2 e^x - 2x e^x + 2e^x + C$</p>	2. $\int 3x e^{2x} dx$ <p style="text-align: center;">$\frac{3}{2} x e^{2x} - \frac{3}{4} e^{2x} + C$</p>
3. $\int y \ln y dy$ <p style="text-align: center;">$\frac{y^2 \ln y}{2} - \frac{y^2}{4} + C$</p>	3. $\int t^2 \ln t dt$ <p style="text-align: center;">$\frac{t^3 \ln t}{3} - \frac{1}{9} t^3 + C$</p>
4. $\int_{-1}^2 \frac{dx}{x^3}$ <p style="text-align: center;">Diverges</p>	4. $\int_0^4 \frac{x}{\sqrt{16-x^2}} dx$ <p style="text-align: center;">4</p>
5. $\lim_{x \rightarrow 0^+} (x^2 \ln x)$ <p style="text-align: center;">0</p>	5. $\lim_{x \rightarrow 0^+} (x^2 \ln x)$ <p style="text-align: center;">0</p>
6. $\lim_{t \rightarrow 0} \left(\frac{1}{\sin t} - \frac{1}{t} \right)$ <p style="text-align: center;">0</p>	6. $\lim_{x \rightarrow 0^+} \left(\frac{1}{x} - \frac{1}{\sqrt{x}} \right)$ <p style="text-align: center;">DNE or ∞</p>
7. A population can be modeled by the logistic differential equation $\frac{dP}{dt} = 5P - .002P^2$. If $P(0) = 100$, solve for $P(t)$. <p style="text-align: center;">$P(t) = \frac{2500}{1 + 24e^{-5t}}$</p>	7. A population can be modeled by the logistic differential equation $\frac{dP}{dt} = 5P - .002P^2$. If $P(0) = 500$, solve for $P(t)$. <p style="text-align: center;">$P(t) = \frac{2500}{1 + 4e^{-5t}}$</p>