Worksheet: Part 2 Segment 5: Integral for $e^x$ and $\frac{1}{x}$.

1. Compute the definite integral $\int_{-1}^{3} 4e^x dx$.

2. Compute the definite integral $\int_{1}^{3} \frac{4}{x} dx$.

3. Compute the definite integral $\int_{1}^{2} \left(4 + \frac{2}{x^2} - \frac{1}{x}\right) dx$.

4. Find the area bounded by the curve $y = 24 - 3e^x$ from $x = 0$ to $x = 2$.

5. Find the area bounded between the curves $y = 2x^2$ and $y = \frac{2}{x}$ from $x = 1$ to $x = 5$. 