

MAC 2312 Calculus II, Worksheet #1:Ch.5 Review

Date: _____

Name: _____

Your Calculus I Instructor: _____

Q1) Find the area under the curve of $f(x) = e^x + 2x$ from $x = 0$ to $x = 3$.

Q2) Find f if $f''(x) = \sin(x) + 12x + e^{2x}$, $f(0) = 1$ and $f'(0) = 0$.

Q3) Integrate $\int \frac{x^2 + x}{x^4} dx$.

Q4) Integrate $\int \frac{x^2 + x}{x^2 + 1} dx$.

Q5) Integrate $\int_0^5 |x - 2| dx$.

Q6) Integrate $\int (\sqrt{1 + x^2}) x^5 dx$.

Q7) Integrate $\int \tan(x) dx$.

Q8) Integrate $\int x^3 \cos(x^4 + 5) dx$.

Q9) Find f if $f''(x) = \cos(\frac{\pi}{2}x) + \frac{1}{x} + e^x + x$, $f(1) = 1$ and $f'(1) = 2$.

Q10) Find the value of $\int_0^1 \left[\left(\frac{2t^2 + t^2\sqrt{t}}{t^{(3/2)}} \right) + \sin(t) \right] dt$.