

Math 182 Honors Quiz 6 Version A

1. Solve the following integration problems:

(i) $\int_0^1 x e^{-x^2} dx$

(ii) $\int_2^\infty \frac{1}{x^3} dx$

(iii) $\int \frac{1}{\sqrt{1+e^x}} dx$

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2. State 4 terms of the Taylor series for $f(x) = \frac{1}{x+3}$ expanded about $a = 1$.

3. Use Taylor's series to compute $\lim_{x \rightarrow 0} \frac{x + (x-1)\ln(x+1)}{x^2}$.