

Math 182 Honors Quiz 7 Version A

1. Find the following derivatives:

(i) $\frac{d}{dx} x^{(x^x)}$

(ii) $\frac{d}{dx} \tanh(2x)$

(iii) $\frac{d}{dx} \frac{\sin x}{1+x^2}$

(iv) $\frac{d}{dx} |\cos(3x)|^5$

Math 182 Honors Quiz 7 Version A

2. Find the following integrals:

(i) $\int (x^2 - 2x + 3)e^{-x} dx$

(ii) $\int \frac{1}{x^2 + 9} dx$

(iii) $\int \frac{1}{x^2 - 9} dx$

(iv) $\int \frac{x + 5}{(x - 3)(x + 1)^2} dx$