

Math 182 Honors Quiz 6 Version A

1. Find the following derivatives:

(i) $\frac{d}{dx} \arctan(5x + 7)$

(ii) $\frac{d}{dx}(x^5 + 5^x)$

(iii) $\frac{d}{dx}(3x)^{2x}$

(iv) $\frac{d}{dx}(5 + \sin x)^{x^2+1}$

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2. Find the following integrals:

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

(ii) $\int (\ln 7x)^2 dx$

(iii) $\int x^2 \ln x dx$

(iv) $\int 9x \sin^2(3x) dx$