

Materials from High School and Calc. I You Should Know...

- Calculus

derivatives of ALL functions you can write down using polynomials, power of x , exponential functions, trig. functions. Chain rules. L'Hopital's rule. Integrals of ALL elementary functions (polynomials, x^n , trig functions, $\ln x$, e^x). Reasonably straightforward u-substitutions for integrals. Derivatives of SOME inverse trig. functions: $\sin^{-1}, \cos^{-1}, \tan^{-1}, \cot^{-1}$.

Be able to know, and derive, the integral of $\frac{1}{1+x^2}$, $\sec x$, $\csc x$

-Trigonometry

All "square sum/difference" identities used for trig. substitutions, half angle identities for \sin and \cos . Derivatives of ALL trigonometric values. Know values of trig. functions of special angles ($n\pi; \frac{\pi}{3}, \frac{\pi}{6}, \frac{\pi}{4}, +/ -n\pi$). Know the sign of ALL trig. functions inside each quadrant. Know the bounds of \sin and \cos

-High School

Factoring quadratic polynomials. Solving system of linear equations.