Math 180 - Test #2 Formula Exercises

Fall 2018, Prof. Beydler

This sheet is designed to help you practice remembering <u>some</u> of your derivatives and formulas.

$\frac{d}{dx}(c) =$ _____ $\frac{d}{dx}(x^n) =$ _____

$(fg)' =$ _____ $\left(\frac{f}{g}\right)' =$ _____

$\frac{d}{dx}(\sin x) =$ _____ $\frac{d}{dx}(\cos x) =$ _____ $\frac{d}{dx}(\tan x) =$ _____

$\frac{d}{dx}(\sec x) =$ _____ $\frac{d}{dx}(\cot x) =$ _____ $\frac{d}{dx}(\csc x) =$ _____

$\frac{d}{dx}(\sin^{-1} x) =$ _____ $\frac{d}{dx}(\cos^{-1} x) =$ _____ $\frac{d}{dx}(\tan^{-1} x) =$ _____

$\frac{d}{dx}(e^x) =$ _____ $\frac{d}{dx}(a^x) =$ _____

$\frac{d}{dx}(\ln x) =$ _____ $\frac{d}{dx}(\log_a x) =$ _____

$\frac{d}{dx}(\sinh x) =$ _____ $\frac{d}{dx}(\cosh x) =$ _____ $\frac{d}{dx}(\tanh x) =$ _____

$\sinh x =$ _____ $\cosh x =$ _____ $\tanh x =$ _____

$\coth x =$ _____ $\operatorname{sech} x =$ _____ $\operatorname{csch} x =$ _____

For those related rates problems:

Distance/rate/time formula: $d =$ _____

Area of rectangle with sides l and w: $A =$ _____

Area of circle with radius r: $A =$ _____

Area of triangle with base b and height h: $A =$ _____

Circumference of circle with radius r: $C =$ _____

Volume of a box with dimensions l, w, and h: $V =$ _____

Volume of circular cylinder with base radius r and height h: $V =$ _____

Surface area of sphere with radius r: $S =$ _____

Volume of sphere with radius r: $V =$ _____

Volume of cone with base radius r and height h: $V =$ _____