

Quiz 5, MATH 1300-401

Name: _____

Differentiate the following functions. Do not simplify your results. (One point each, maximum ten points.)

1. x^3 , $x^{-3/4}$, $\frac{1}{x^2}$, $\frac{1}{\sqrt[3]{x}}$

2. e^x , 2^x , $\ln x$, $\log_2 x$

3. $\sin x$, $\cos x$, $\tan x$

4. $\csc x$, $\sec x$, $\cot x$

5. $\arcsin x$, $\arccos x$, $\arctan x$

6. $x^2 2^x$

7. x^x

8. $\frac{e^{-1/x}}{x^2 - 1}$

9. $x \ln x - x$

10. $\ln(\arcsin x)$

11. $3^{\cot x}$

12. $e^{\cos x} + \cos(e^x)$

13. $(4x^2 - 3x + 2)^{25}$

14. $\ln \left(\sin \left(\frac{2x - 1}{3x - 4} \right) \right)$

15. $\frac{\log_3(x)}{e^x + x^e}$

16. $e^{-kx} \cos(ax + b)$ (a, b, k constant with respect to x)

17. $\sec\left(\frac{1}{1+x^2}\right)$

18. $\arctan\left(\sqrt{x + \sqrt{x}}\right)$

19. $x^2 e^{-x} \ln x$

20. $e^\pi + 2^{x^3}$