Name:_____

Calculus
Derivative Progression F: exponentials and logarithms

Find the derivative of each function ($\frac{dy}{dx}$)

1) $y = e^x$

2) $y = 5^x$

3) $y = \frac{1}{2^x}$

4) $y = \ln x$

5) $y = \log_5 x$

6) $y = \ln x^2$

7) $y = \log_3\left(x^3 + 5x\right)$

8) $y = e^{5x^3}$

9) $y = 7^{5x^3}$

10) $y = e^{\frac{x}{2}}$

11) $y = \sqrt{e^x}$

12) $y = e^{\ln x^2}$

13) $y = \log_{10} 10^{x^2}$

14) $y = \log_{10} 100^x$

15) $y = \log_3 81^{x^2}$

16) $y = e^{x \ln 5}$