## CH. 5 AB Derivative Review WS          Name_____

1) $\dfrac{d}{dx}\ln(4x^5 - 10) =$

2) $\dfrac{d}{dx}\ln(e^x + 7) =$

3) $\dfrac{d}{dx}4^{\sin x} =$

4) $\dfrac{d}{dx}7^{2x^2} =$

5) $\dfrac{d}{dx}e^{6x^5} =$

6) $\dfrac{d}{dx}e^{\tan x} =$

7) $\dfrac{d}{dx}\arcsin(2x^2) =$

8) $\dfrac{d}{dx}\arctan(3x) =$

9) $\dfrac{d}{dx}\text{arcsec}(5x^4) =$

10) $\dfrac{d}{dx}\arcsin(\cos x) =$

11) $\dfrac{d}{dx}\arctan(e^{4x}) =$

12) $\dfrac{d}{dx}\text{arcsec}(11x) =$

13) $\dfrac{d}{dx}x^{2x} =$

14) $\dfrac{d}{dx}(\sin x)^x =$

**Write the equation of the tangent line to the given equation at the given point**

15) $f(x) = \ln(x^3 + 5)$ ; $(2, \ln 13)$

16) $f(x) = e^{7x} \cos x$ ; $(0, 1)$

**Find all relevant properties of $f(x)$**

17) $f(x) = x \cdot \ln x$ , $x > 0$

rel. max.               rel. min.

inc.                     dec.

inf.pts

conc.up.                conc.down