AP Calculus – Worksheet – Derivatives of Logarithmic and Exponential Functions

Find dy/dx of the following.

1. $y = e^{\sqrt{x}}$

5. $y = \ln(5x - 6)$

2. $y = \left(e^{2x} + 3\right)^2$

6. $y = e^{\pi x}\sin(2x)$

7. $y = x^{2x}$

3. $y = \dfrac{e^x - e^{-x}}{e^x + e^{-x}}$

4. $y = x^{\tan x}$

8. $y = \dfrac{e^x + e^{-x}}{e^x - e^{-x}}$

9. $y = 3^{2x}$

12. $y = \tan^{-1}(x)$

10. $e^{x+y} + 6x = y$

13. $y = \cos^{-1}(2x)$

11. $y = \sin^{-1}(e^x)$

14. $y = \cot^{-1}(\ln x)$

15. $y = \sqrt{\dfrac{(1+5x)(1+2x)}{(x-3)}}$