Exponential Derivatives Worksheet

Name _____

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1. Find the derivatives of the given functions.

   (a) $y = 5^x + 2$

   (b) $y = 5t^2 + 4e^t$

   (c) $f(x) = 12e^x + 11^x$

   (d) $y = 3x - 2 \cdot 4^x$

   (e) $y = \frac{3^x}{3} + \frac{33}{\sqrt{x}}$

   (f) $f(t) = (\ln 3)^t$

   (g) $y = 5 \cdot 5^x + 6 \cdot 6^x$

   (h) $f(x) = e^k + k^x$

   (i) $f(x) = e^{1+x}$

   (j) $y = \pi^2 + \pi^x$

2. Find the equation of the tangent line to $f(x) = 3^x$ at the point where $x = 2$.