1) $y(x) = 34 \cdot \frac{1}{1 + 64e^{-.7x}}$ assuming this is what you mean

2) $y(x) = 34 \cdot \left(1 + 64e^{-.7x}\right)^{-1}$ rewrite with -1

3) $y'(x) = 34 \cdot (-1) \cdot \left(1 + 64e^{-.7x}\right)^{-2} \cdot \frac{d}{dx}\left(1 + 64 \cdot e^{-.7x}\right)$ chain rule

4) $y'(x) = -34 \cdot \left(1 + 64e^{-.7x}\right)^{-2} \cdot 64(-.7)e^{-.7x}$ chain rule again

5) $y'(x) = \frac{-34 \cdot 64 \cdot -.7}{\left(1 + 64e^{-.7x}\right)^2 \cdot e^{.7x}} = \frac{1.523 \cdot 10^3}{\left(1 + 64e^{-.7x}\right)^2 \cdot e^{.7x}}$ simplify