

# Quiz 5

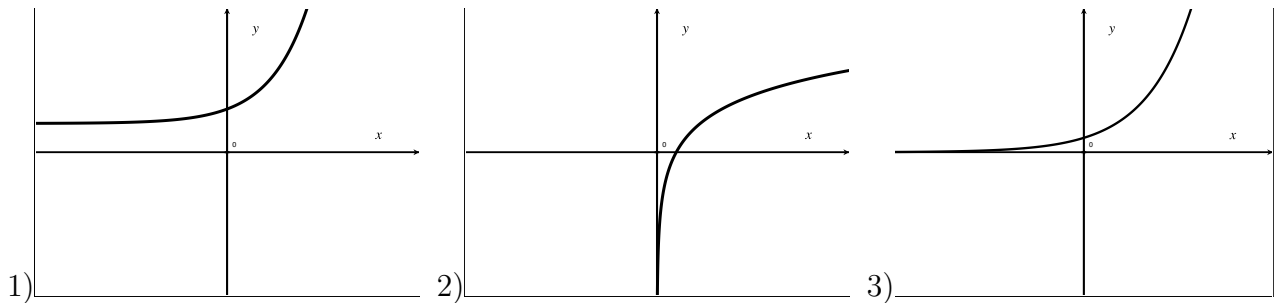
Show *all* your work. No credit is given without reasonable supporting work. There are *two* sides to this quiz.

1. [3] (WebHW 7 #3 & §4.2 #38) Assume that  $A$ ,  $B$ , and  $C$  are positive numbers. Match the following functions to their corresponding graphs:

i)  $y = A^x$

ii)  $y = \log_B(x)$

iii)  $y = A + e^{Cx}$



2. (§4.2 #51) Let  $f(x) = \ln(2 - 3x)$ . Find:

(a) [1] the range of  $f$

(b) [1] the domain of  $f$

3. [1] (WebHW8 #1) Evaluate the expression:  $\log_3 \sqrt{27}$

4. [4] (WebHW8 #16 & §4.4 #71) Find all possible solutions for both of the equations below:

$$\log_6(4) - \log_6(x) = \log_6(x - 4) - \log_6(9)$$

$$2000 = 1000e^{.085x}$$