Name:_____

Math 156 PRECALCULUS
Fall 2015

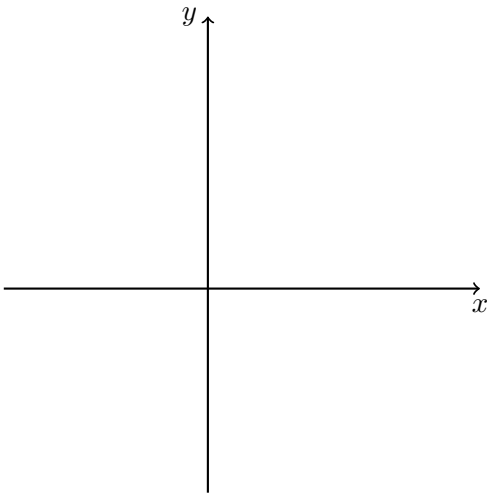
Quiz 7 – Version One

Thursday, October 29, 2015

This quiz has 8 problems worth a total of 30 points. It is TWO SIDED.

1. (4 points each) Sketch the graphs of the functions below and **LABEL** (a) any asymptotes and (b) any x- or y-intercepts. State the domain and range.

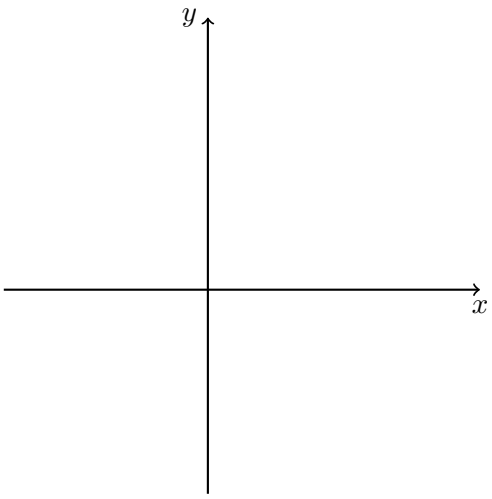
(a) $f(x) = 2^{x+4} + 1$



domain: _____

range: _____

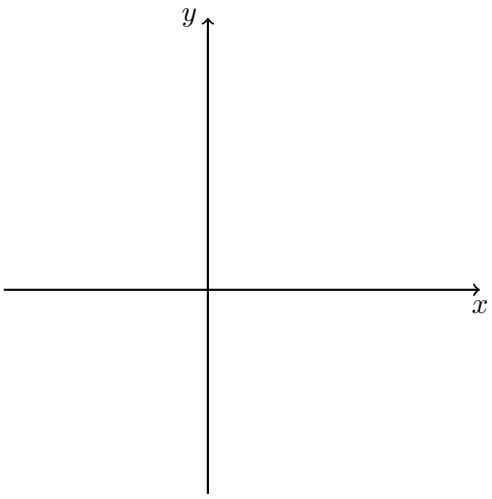
(b) $f(x) = -2e^{-x}$



domain: _____

range: _____

(c) $f(x) = \log_3(x - 2)$



domain: _____

range: _____

2. (2 points) Express the equation $\boxed{\log 4 = 5t}$ in exponential form. (You don't need to solve it.)

Answer:_____

3. (2 points) Express the equation $\boxed{e^{0.9t} = s}$ in logarithmic form.

Answer:_____

4. (2 points each) Evaluate the expressions below.

   (a) $\log_9 \sqrt{3}$

   Answer:_____

   (b) $e^{\ln 10}$

   Answer:_____

   (c) $\log_4 8$

   Answer:_____

5. (2 points) find the domain of the function $h(x) = \ln x + \ln(2 - x)$. Give your answer in interval notation.

   Answer:_____

6. (2 points) Use the Laws of Logarithms to evaluate the expression

$$\boxed{\frac{-1}{3}\log_5 125}$$

Answer:_____

7. (2 points) Use the Laws of Logarithms to expand the expression

$$\boxed{\ln\left(\frac{\sqrt{3x^5}}{zy^2}\right)}$$

Answer:_____

8. (2 points) Use the Laws of Logarithms to combine the expression:

$$\boxed{\log_a(a+b)+\log_a(a-b)-2\log_a c}$$

Answer:_____