Name:_____

Math 156 PRECALCULUS
Fall 2015

Quiz 7 – Version A

Thursday, October 29, 2015

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

1. (2 points) Express the equation $\boxed{\log 3 = 2t}$ in exponential form. (You don't need to solve it.)

Answer:_____

2. (2 points) Express the equation $\boxed{e^{0.7t} = r}$ in logarithmic form.

Answer:_____

3. (2 points each) Evaluate the expressions below.

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

Answer:_____
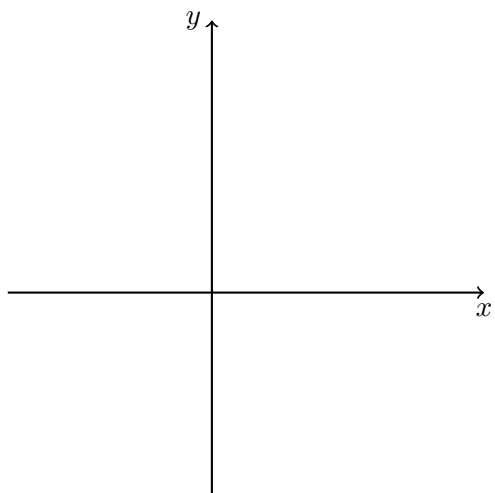
   (b) $e^{\ln 10}$

Answer:_____

   (c) $\log_4 8$

Answer:_____

4. (2 points) find the domain of the function $h(x) = \ln x + \ln(2 - x)$. Give your answer in interval notation.

Answer:_____

5. (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.
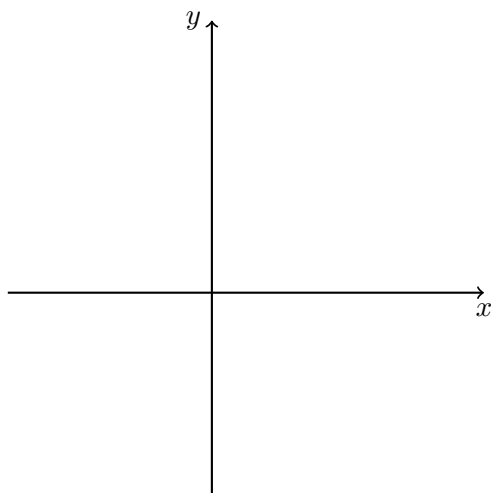
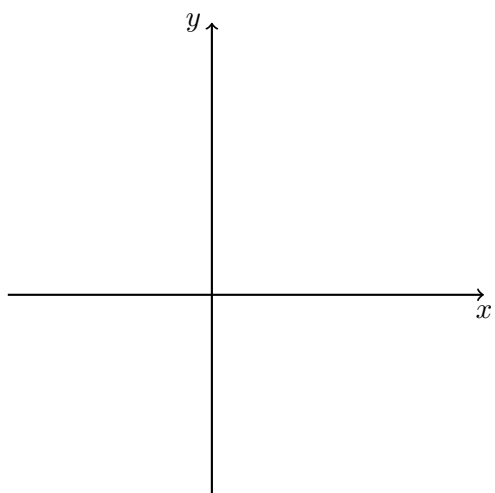(a) $f(x) = \log_3(x + 2)$

y

x

domain: _____

range: _____

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

y

x

domain: _____

range: _____

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

y

x

domain: _____

range: _____

3

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:_____

4