Quiz 2

Fundamentals of Calculus I

Name: _____

Explain and justify your thought process.
Write your answers in the space provided. No calculators allowed.

1. Find all solutions to $\dfrac{1}{e^x} = e^{5(x+2)}$.

2. Solve $\log_5(x+17) + \log_5(2x-4) = 2$.

3. What is the minimum value of $x^2 + 8x + 15$?

4. Find all solutions to $\log_2(x^2 - 6x) = 3 + \log_2(1 - x)$.

No justification necessary.

5. Sketch the graph of $x^{100} + \pi$.

6. Provide one application where logarithms are useful.

True or False. No justification necessary.

7. _____ The horizontal asymptote of $\dfrac{4x}{x-5} + 8$ is 5.

8. _____ $\log_a(x + y) = \log_a(x) * \log_a(y)$

9. _____ The domain of $\log_3 x$ is all real number except 0.

Bonus (+1 point): How many digits are in 8^{1000} ? (hint: $\log 2 = .3010$)