QUIZ 8 - MATH 111

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Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [7 points] Use a small table of values to sketch the graph of $f(x) = (\frac{1}{3})^x$.

Fill in the following spaces with formulas, based on the descriptions provided on the right.

$f(x) = (\frac{1}{3})^x \quad \longrightarrow$ (vertical stretch by factor of 5)

$\longrightarrow$ (shift left by 2 points)

$\longrightarrow$ (shift down by 7 points)

The new function has as horizontal asymptote the line:

2. [5 points] Suppose a graph of an exponential function with base $\frac{2}{3}$ is shown below. Find a formula $y = f(x)$ for the function.