Name:
Result:

1.   *(2 points)*

Solve the following equation. Give your answer in the form $\dfrac{\ln p}{\ln q}$, where p and q are integers.

$$2^{1-x} = 3^{2x-1}$$

2.   *(8 points)*

Solve the following equations:

a) $\log_2 x + \log_4 x = 3$

b) $2^{2x+1} + 3 = 7 \cdot 2^x$

c) $\log_2 x - 6 \log_x 2 = 1$

3.   *(3 points)*

If $\log_2 3 = a$ and $\log_2 5 = b$ express the following in terms of a and b:

a) $\log_2 0.6 =$

b) $\log_3 25 =$

c) $\log_8 30 =$

4.   *(3 points)*

Sketch the graph of $y = \big|\log_2(|x| - 2)\big| - 1$. Clearly indicate any asymptotes and axes intercepts.