

Quiz 1B, Math 1850 Section 012

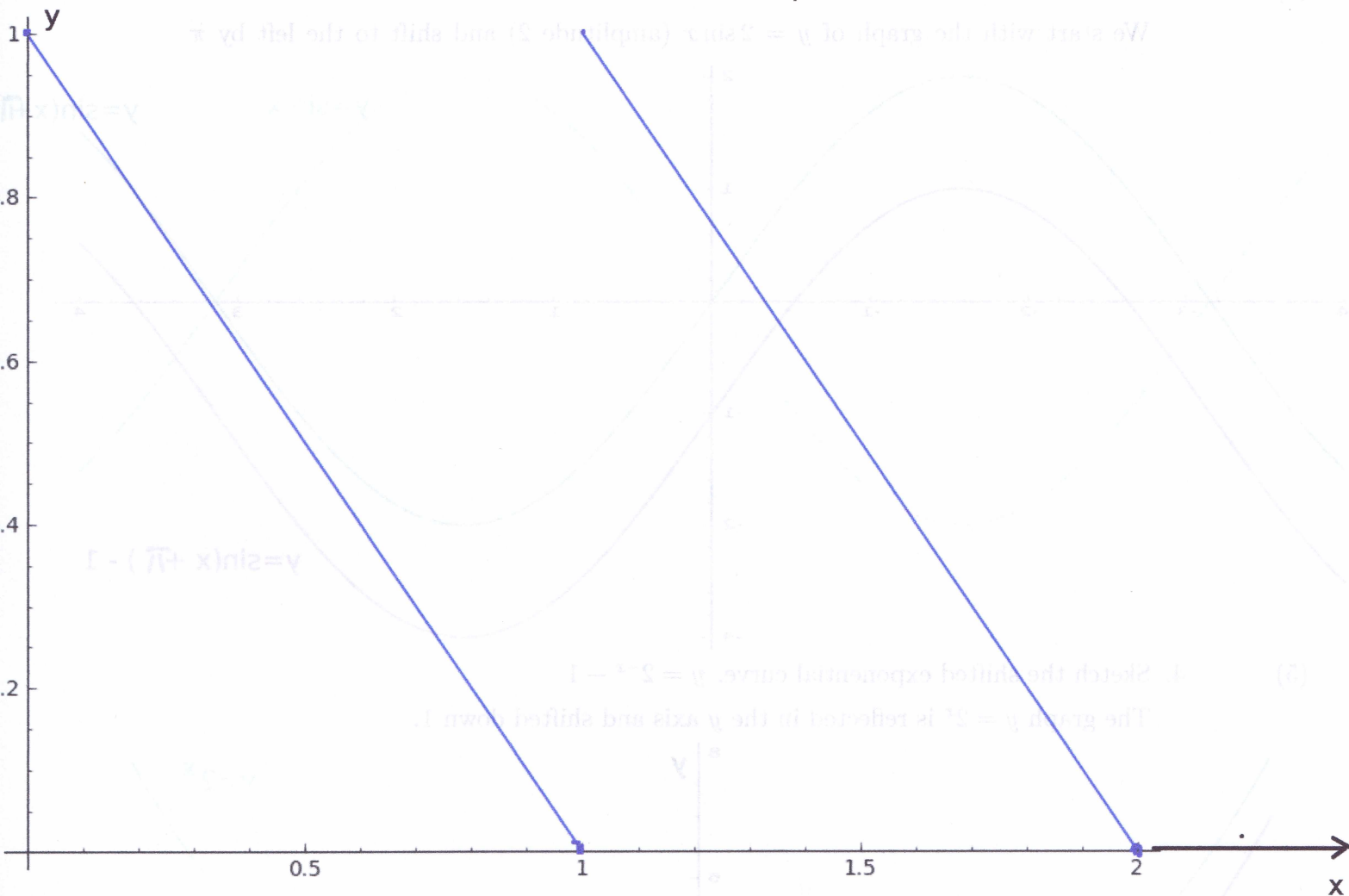
9/4/2014

Solutions

Name _____

(6)

1. Graph the (piece-wise defined) function $G(x) = \begin{cases} 1-x & \text{if } 0 \leq x \leq 1 \\ 2-x & \text{if } 1 < x < 2 \end{cases}$



(4)

2. Let $f(x) = x - 3$, $g(x) = \sqrt{x}$, $h(x) = x^3$ and $j(x) = 2x$. Express each of the following functions as a composite involving one or more of f , g , h and j .

~~(a)~~ $y = (2x - 6)^3$

Here $y = h(j(f(x))) = h \circ j \circ f(x)$.

(b) $y = 2\sqrt{x-3}$

Here $y = j(g(f(x))) = j \circ g \circ f(x)$.

(a) $y = \sqrt{(2x-6)^3}$

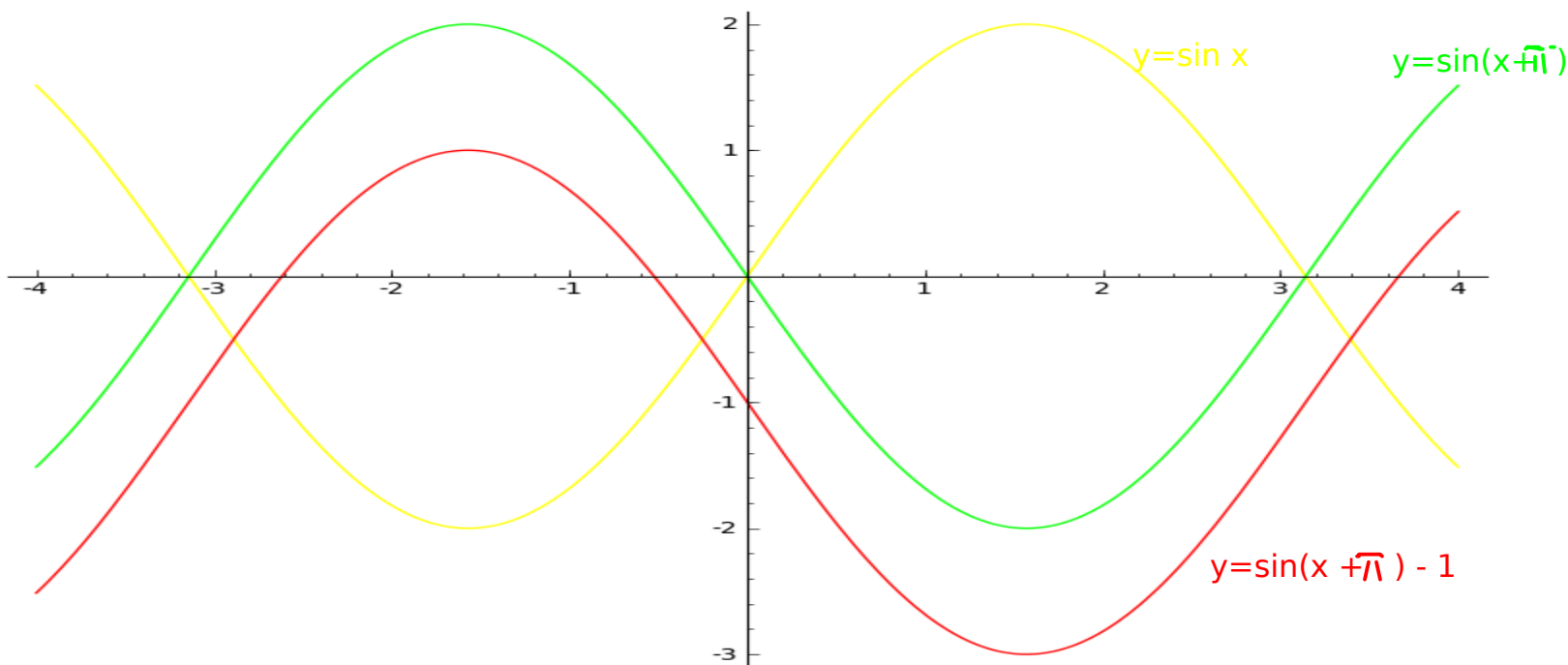
$y = g(h(j(f(x)))) = g \circ h \circ j \circ f(x)$

3. Sketch the graph the function

$$y = 2 \sin(x + \pi) - 1$$

(5)

We start with the graph of $y = 2 \sin x$ (amplitude 2) and shift to the left by π



(5)

4. Sketch the shifted exponential curve. $y = 2^{-x} - 1$

The graph $y = 2^x$ is reflected in the y axis and shifted down 1.

