Practice quiz Was old quiz Fall 2017

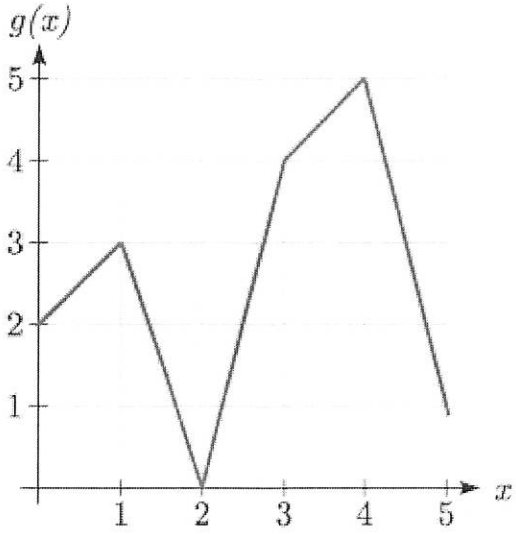
Key

In Class Quiz Name_____

Sections 1.1 – 1.4 Answers without supporting work may not receive full credit.

Use the functions defined below to answer following questions:

x	$f(x)$
0	7
1	6
2	5
3	8
4	4
5	0
6	2
7	1
8	9
9	3



$$h(x) = \frac{1}{x+2}$$

1. $(fg)(1)$ $f(1) = 6$ $g(1) = 3$ $6 \cdot 3 = 18$

2. $(h-g)(2)$ $h(2) = \frac{1}{4}$ $g(2) = 0$ $\frac{1}{4} - 0 = \frac{1}{4}$

3. Find $f(g(2))$ $g(2) = 0$ $f(0) = 7$

4. Find $f(g(h(-1)))$

$h(-1) = 1$ $g(1) = 3$ $f(3) = 8$

5. Is g(x) a one to one function? Explain.

No because it fails the horizontal line TEST.

6. The domain of g(x) is [0, 5]. State the sub-domain when g(x) is an increasing function and the sub-domain when g(x) is a decreasing function. Use interval notation.

Increasing: $(0,1) \cup (2,4)$

Decreasing: $(1,2) \cup (4,5)$

Find the Average rate of change for these next two questions:

7. $f(x) = 3x + 1 \; on \; [-2, 7]$

$f(7) = 3(7)+1 \rightarrow 22$

$f(-2) = 3(-2)+1 \rightarrow -5$

$\frac{22+5}{7+2} = \frac{27}{9} \rightarrow 3$

8. $f(x) = \frac{2}{x+2} \; on \; [0, b]$

$f(b) = \frac{2}{b+2}$

$f(0) = 1$

$\frac{\frac{2}{b+2} - 1}{b-0}$ Common denominators $\frac{\frac{2-1(b+2)}{b+2}}{b}$

$\frac{\frac{2-b-2}{b+2}}{b} =$

$\frac{-b}{b+2} \cdot \frac{1}{b} \rightarrow \boxed{\frac{-1}{b+2}}$

Given $f(x) = \begin{cases} -3 & on\ x \leq -5 \\ 2x - 3 & on\ -5 < x \leq 2 \\ -x + 2 & on\ x > 2 \end{cases}$

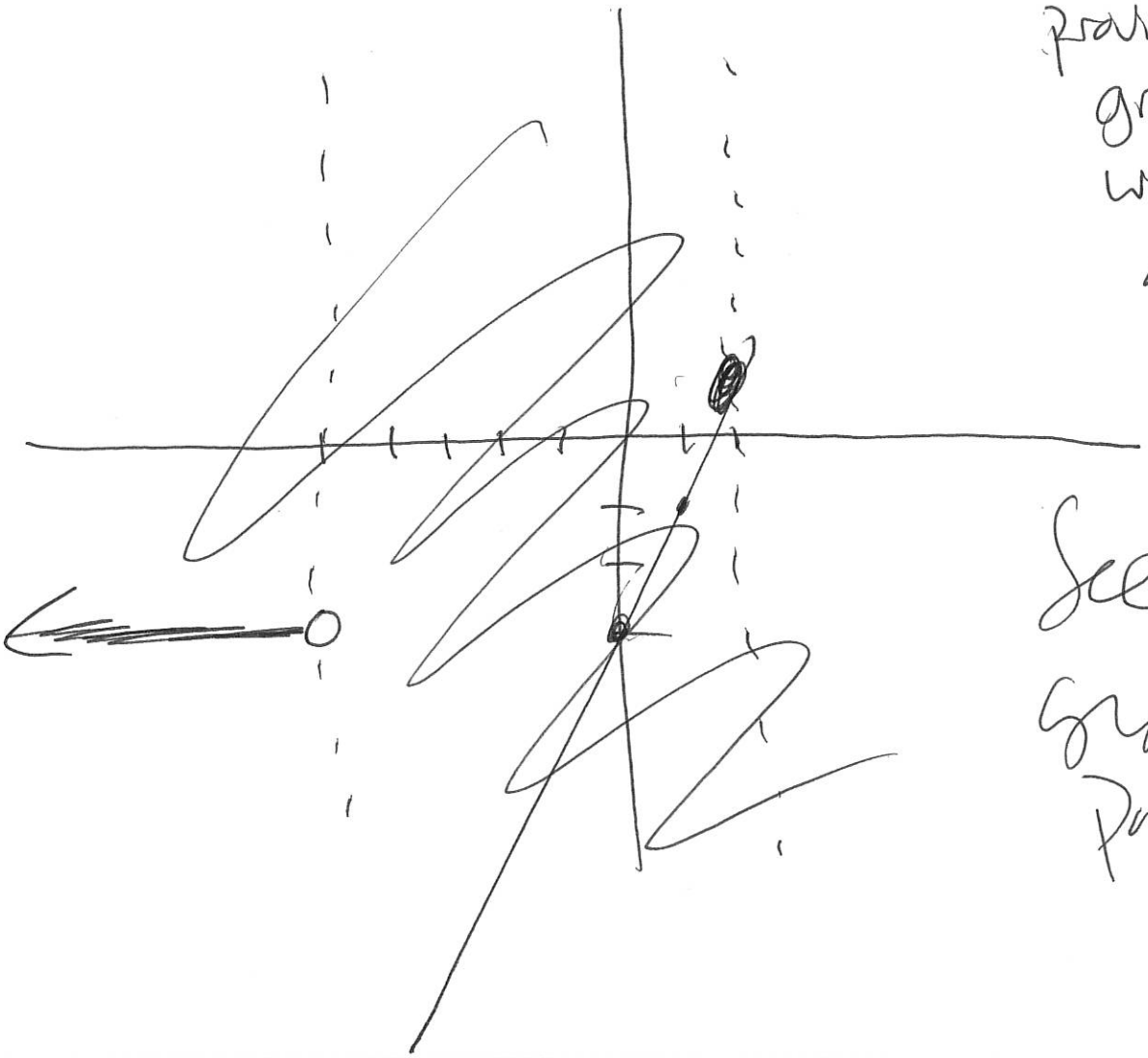
9. Evaluate f(-3) $2(-3)-3 = -9$

10. Evaluate f(-6) -3

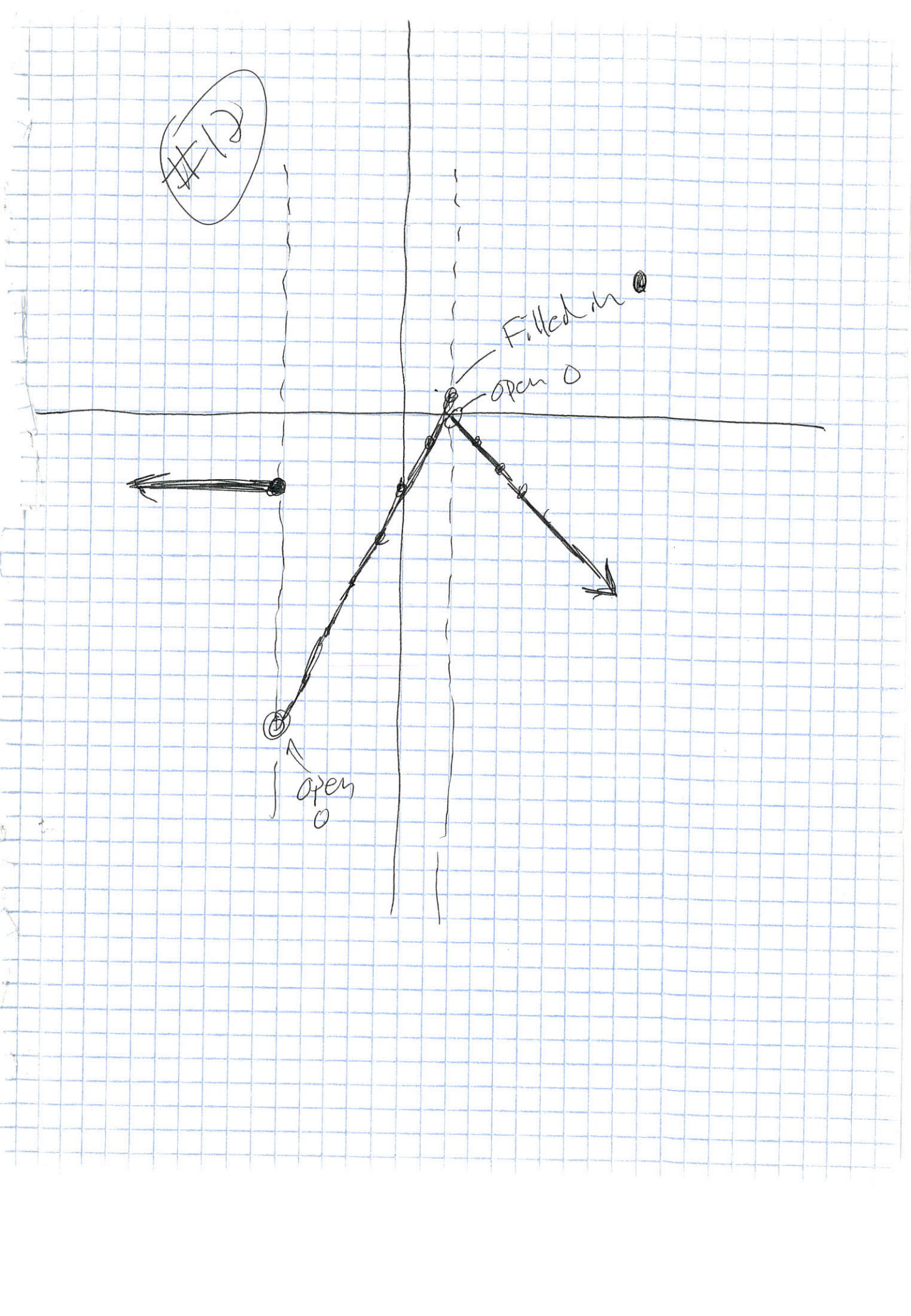
11. Evaluate f(3) $-3+2 = -1$

12. Graph f(x) on the plane on the next page.

I should have provided a graph paper with x & y axis



See graph paper.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