Name: _____ **Show work needed to justify your answer.** Date: _____

HW: # 5a: Math IBSL - Standard 5 - Composition of Functions 5 points

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1 Given the functions

$f(x) = \{(2,1), (3,2), (5,6), (10,-4)\}$

$g(x) = \{(-2,3), (3,11), (6,-3), (11,0)\}$

a find:

i $f(g(-2))$ **ii** $g(f(5))$

iii $g(g(3))$

a(i) $f(g(-2)) \to f(3) \to \boxed{2}$

a(ii) $g(f(5)) \to g(6) \to \boxed{-3}$

a(iii) $g(g(3)) \to g(11) \to \boxed{0}$

2 Using the table of values below, find:

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

a $(f \circ g)(3)$ **b** $(g \circ f)(-1)$ **c** $(f \circ f)(9)$

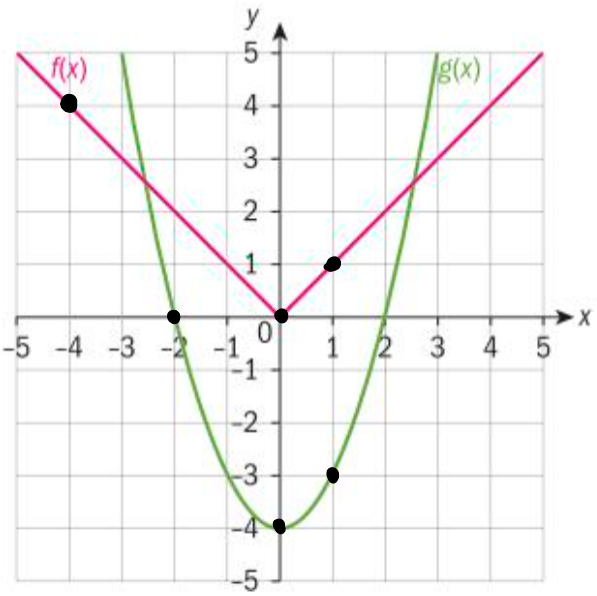
$f(7)$ $g(9)$ $f(-1)$

$\boxed{-2}$ $\boxed{-4}$ $\boxed{9}$

3 Using the graph below, find:

a $g(f(0))$ **b** $g(f(1))$

c $f(g(-2))$ **d** $f(g(0))$



a) $g(f(0)) = g(0) = \boxed{-4}$

b) $g(f(1)) = g(1) = \boxed{-3}$

c) $f(g(-2)) = f(0) = \boxed{0}$

d) $f(g(0)) = f(-4) = \boxed{4}$