

- 1) In the following tables decide whether the function is exponential, linear or neither. Then Find the proper function.

*(Please very clearly show all of the mathematical steps)*

(2 points Each)

a)

$x$	0	1	2	3	4
$f(x)$	64	16	4	1	0.25

b)

$x$	-1	1	2	3	4
$f(x)$	6	8	24	25	26

c)

$x$	-1	1	2	3	4
$f(x)$	4	8	10	12	14

- 2) Find the inverse of the following functions

(4 points)

a)  $f(x) = 7x - 105$

b)  $f(x) = x^3 - 8$

3) Some values for the function  $f$  is shown in the table below. (1/2 points each)

$x$	0	1	2	3
$f(x)$	3	2	1	0

$x$	0	1	2	3
$g(x)$	1	2	3	0

a) Find  $(f \circ g)(0)$

b) Find  $(g \circ f)(1)$

c) Find  $(f \circ g^{-1})(3)$

d) Find  $(g \circ f^{-1})(1)$

Evaluate the following.

(1 points each)

4a) Write the equation  $b^M = c$  in logarithmic form.

4b) Write the equation  $\log_7(X) = -1$  in exponential form.

5) Given  $f(x) = 3x - 7$  and  $g(x) = 5 - 2x - x^2$

(1 points each)

a) Find  $f(-3)$

b)  $g(-2)$

c) Find  $x$  value when  $f(x) = 2$

d) Find  $x$  intercept of  $f(x)$

e) Find  $y$  intercept of  $f(x)$

f) Find  $(f \circ g)(x)$

g) Find  $(g \circ f)(x)$