Unit 1 Test Prep

Find the domain and range for this problem. (Use your calculator)

1. $f(x) = x - 3$

   Domain:

   Range:

Use the given f(x) and g(x) to evaluate each expression

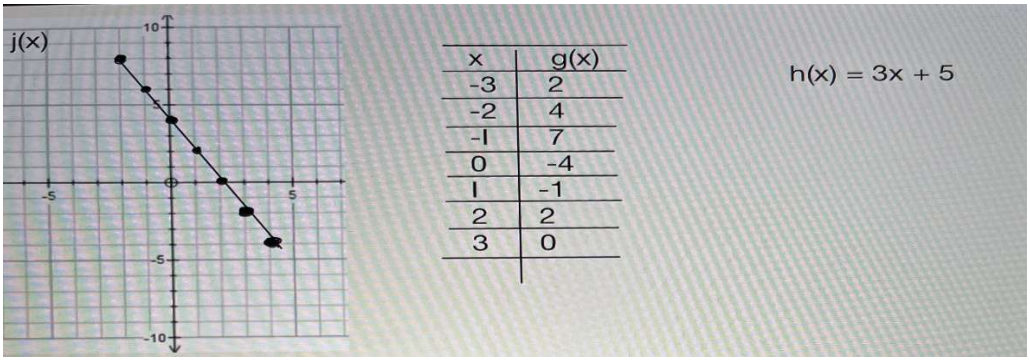
2. $f(x) = 2x + 1$ $g(x) = -4x - 1$

   a. $(f \times g)(x)$ b. $(g(g(x)$

Find the inverse function.

3. $f(x) = \sqrt[3]{5x} + 7$ 4. $f(x) = \frac{x-6}{3}$

   $f^{-1} =$ $f^{-1} =$



x	g(x)
-3	2
-2	4
-1	7
0	-4
1	-1
2	2
3	0

$h(x) = 3x + 5$

Use the functions above to answer the following questions.

1. J(-2) =

6. H(x) = 14, x =

7. G(x) 2, x =

Tables for the function f and g are given. Evaluate the expression.

x	1	2	3	4
f(x)	4	3	1	2

x	1	2	3	4
g(x)	2	3	4	5

8. $(g \times f)(1)$

9. $(f \times f)(3)$

Use elimination, substitution, or matrix operations and then backwards substitution to solve the system of equations. Write solution as an ordered pair.

10. $x - 3y = -2$

$2x - y = -4$

Solve the following problems with your calculator. Put answer as an ordered triple.

11. $x - z = -3$

$y - z = -2$

$2x + y = -5$

12. $x + 3y + z = 6$

$3x + y - x = 6$

$x - y - z = 0$

$$f(x) = 4x - 7$$

13. Find the net change (f(b) – f(a) when b > a where x = -3 and x = 5

14. Using the piecewise function to answer the following questions.

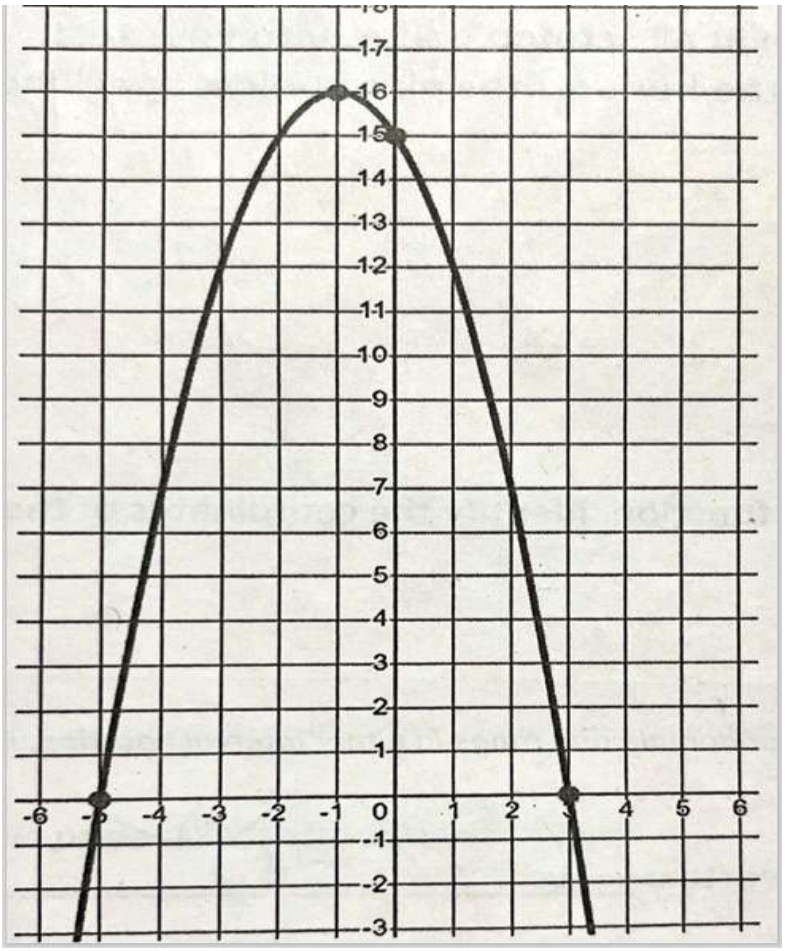
$$f(z) = \begin{cases} z & \text{if } x < -1 \\ z + 1^2 & \text{if } -1 \leq z \leq 2 \end{cases}$$

a) Find f(2), and f(-4)

b) Determine the domain and range

c) Make a graph

15. Use the graph to answer the following questions.



Interval where f(x) is increasing:

Interval where f(x) is decreasing:

What is the local maximum(s):

What is the local minimum(s):