Pangasinan National High School
General Mathematics
First Semester
SY 2020-2021

Worksheet No. 1: **Functions** Score: _____
Name: _____
Section: _____

I. Direction: Find an expression for $f(x)$ and state its domain. **(15 pts)**

1. f is a function that takes a real number x and performs the following three steps in the order given: (1) multiply by 2; (2) add 3; (3) divide by 4.
   Answer:

2. f is a function that takes a real number x and performs the following three steps in the order given: (1) add 3; (2) multiply by 2; (3) divide by 4.
   Answer:

3. f is a function that takes a real number x and performs the following three steps in the order given: (1) divide by 4; (2) add 3; (3) multiply by 2.
   Answer:

4. f is a function that takes a real number x and performs the following three steps in the order given: (1) multiply by 2; (2) add 3; (3) take the square root.
   Answer:

5. f is a function that takes a real number x and performs the following three steps in the order given: (1) add 3; (2) multiply by 2; (3) take the square root.
   Answer:

II. Direction: Determine whether or not the relation represents y as a function of x. Find the domain and range of those relations which are functions. **(10 pts)**

1. $\{(-3,9),(-2,4),(-1,1),(0,0),(1,1),(2,4),(3,9)\}$
   Function/Not a Function:
   Domain:
   Range:

2. $\{(-3,0),(1,6),(2,-3),(4,2),(-5,6),(4,-9),(6,2)\}$
   Function/Not a Function:
   Domain:
   Range:

3. $\{(-3,0),(-7,6),(5,5),(6,4),(4,9),(3,0)\}$
   Function/Not a Fuunction:
   Domain:
   Range:

4. $\{(1,2),(4,4),(9,6),(16,8),(25,10),(36,12),...\}$
   Function/Not a Function:
   Domain:
   Range:

5. $\{(1,0),(2,1),(4,2),(8,3),(16,4),(32,5),...\}$
   Function/Not a Function:
   Domain:
   Range:

III. Direction: Determine whether or not the relation represents y as a function of x. Find the domain and range of those relations which are functions. **(20 pts)**

1. Function/Not a Function:
   Domain:
   Range:

2. Function/Not a Function:
   Domain:
   Range:

3. Function/Not a Function:
   Domain:
   Range:

4. Function/Not a Function:
   Domain:
   Range:

IV. Direction: Determine whether or not the equation represents y as a function of x. **(10 pts)**

1. $y = x^3 - x$
2. $y = \sqrt{x-2}$
3. $x^3 y = -4$
4. $x^2 - y^2 = 1$
5. $x = -6$