**ALGEBRA**

**SECTION 5.3**

**FUNCTION RULES, TABLES, & GRAPHS**

**Independent Variable** – the variable that provides the input values of a function

(The variable that you “choose for”.)

**Dependent Variable** – the output values for a function

(Relies, or depends, on what the other variable is in the function.)

**I. Three Views of a Function**

**A. As a function**

Choose values for x, substitute into function to find y

 ***x y (x, y)***

0 3 (0, 3)

1 5 (1, 5)

2 7 (2, 7)

3 9 (3, 9)

**B. As a table of values (at least 3 pairs need to be given)**



*x y* (*x, y*)

0 3 (0, 3)

1 6 (1, 6)

2 9 (2, 9)

**C. As a graph.**

A cell phone plan costs $50 per month plus $0.05 per minute. The total coast C(m) depends on the number of minutes that you talk. Use the rule  to make a table and a graph of the cost for this phone.

Since C(m) relies on the value(s) for m, choose values for m and evaluate.

m C(m) (m, C(m))

0 50 (0, 50)

100 55 (100, 55)

200 60 (200, 60)

300 65 (300, 65)

Once you have some ordered pairs, plot the points on a graph and connect.

Minutes

Cost

200

50

60

**II. Make a table and graph of the following functions:**

**NOTE: The designation f(x) is read “the function of x). This is just another way to show that the value of x is the independent variable and that the value for f(x) relies on what the value for x is equal to.**

**(Treat any function with an f(x), f(g), f(h), etc as being equal to y)**

 

***x y* *x f(x)***

0 1 0 3

1 2 1 4

2 3 2 7

3 4 3 12

Since these are “special” functions (absolute value and squared), pick some negative values for x also.

-1 2 -1 4

-2 3 -2 7

-3 4 -3 12

**HINT:** An absolute value function will give you a “V” graph.

A squared function will give you an “U” graph.