NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Non Linear**

**Create examples of each of the following…**

**Linear**

|  |  |
| --- | --- |
| x | y |
|  |  |
|  |  |
|  |  |
|  |  |

Graph: Table:

Equation: Situation:

**Non - Linear**

Graph: Table:

Equation: Situation:

A square tile has side length of x inches. The equation y = x2 gives

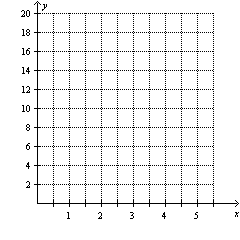
the area y of the tile in square inches.

y = x2

x

1. Do you think that y = x2 will produce a graph that is a straight line (linear)? Why or why not?
2. Complete the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Side Length, x | 1 | 2 | 3 | 4 |
| Area, y |  |  |  |  |

1.  Plot the points, and then connect the points to represent all the possible x-values and their corresponding y-values.
2. Decide whether the equation y = x2 is a

linear equation. Explain.

1. How is the equation, y = x2 different from the linear equations you have graphed?
2. Explain whether you think the equation y = 2x2 + 4 is a linear equation.
3. **Error Analysis** A student graphed several solutions of y = -2x as shown. The student concluded that the equation is not a linear equation. Explain the student’s error.

(copy and paste graph from On core p. 41.)

Copy and paste “practice” from on core p. 42.