Name: ___

Practice - Key Features of Graphs

1) Use the function f(x) = 2x + 4.

a) Before you graph it, predict: Should this graph be linear or nonlinear? Why?





c) Do you notice a pattern in the outputs? What is it?

d) Increasing/Decreasing?

e) x-intercept:f) y-intercept:g) Does it have a constant slope?

2) Use the function g(x) = -3x - 1

a) Before you graph it, predict: Should this graph be linear or nonlinear? Why?

b) Complete the table and graph it:



х	g(x)
-3	
-2	
-1	
0	
1	
2	
3	

c) Do you notice a pattern in the outputs? What is it?

d) Increasing/Decreasing?

e) x-intercept:

f) y-intercept:

g) Does it have a constant slope?

3) Use the function $h(x) = x^2 + 1$

a) Before you graph it, predict: Should this graph be linear or nonlinear? Why?





c) Do you notice a pattern in the outputs? What is it?

d) Increasing/Decreasing?

e) x-intercept:

f) y-intercept:

g) Does it have a constant slope?

THERE IS A BACK!!!

For 4 – 7, draw the graph according to the instructions. NOTE: One of them is impossible! Label that one "impossible."

4) Draw a graph that is increasing, then decreasing. The x-intercepts should be -6 and 6, and the y-intercept should be 2.



6) Draw a graph that is increasing, then decreasing, then increasing, then decreasing.The y-intercept should be -4, and there should be **no** x-intercept.



5) Draw a graph that is decreasing, then increasing. The only x-intercept should be 4. The y-intercept should be 6.



7) Draw a graph that is decreasing, then increasing, then decreasing. The x-intercepts should be -8, -6, and 5. The y-intercept should be -4.

