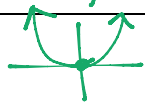
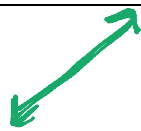
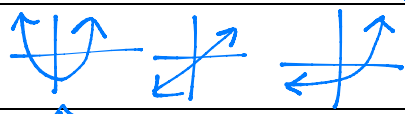
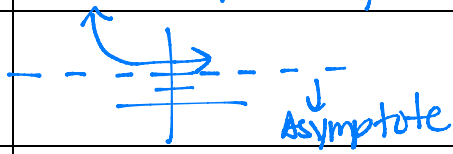
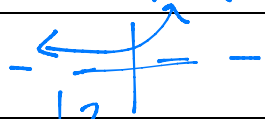
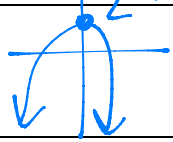
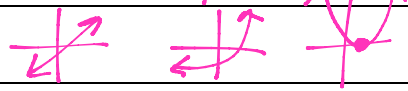
Name: _____

Directions: Identify whether the following information describes a linear, quadratic, and/or exponential function. Describe the graph for each type of function that would meet this criteria.

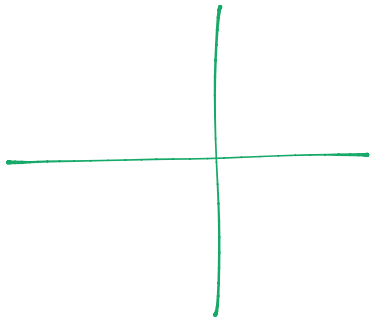
Function Characteristic	L, Q, and/or E	Graph Description
1. The graph has the following end behavior: $as\ x \to \infty,\ y \to \infty$ $as\ x \to -\infty,\ y \to \infty$	Q	
2. The graph has an x-intercept of (-1,0) and (1,0).	Q	
3. The range of the function is [0,∞)	Q	
4. The graph has the following end behavior: $as\ x \to \infty,\ y \to \infty$ $as\ x \to -\infty,\ y \to -\infty$	L	
5. <table><tr><td>x</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr><tr><td>y</td><td>2</td><td>4</td><td>6</td><td>8</td></tr></table>	L	+2 → constant Rate of Change
6. The domain of the function is (-∞, ∞).	Q, L, E	
7. The graph has the following end behavior: $as\ x \to \infty,\ y \to 2$ $as\ x \to -\infty,\ y \to \infty$	E	
8. The graph has a y-intercept of (0,-2).	L, Q, E	
9. There is an asymptote of y=0.	E	
10. The range of the function is (-∞, 2].	Q	

11. The rate of change is the same between each point on the graph.	L, E	Add same # Multiply same #
12. The graph has the following end behavior: $as\ x \to \infty,\ y \to -\infty$ $as\ x \to -\infty,\ y \to \infty$	L E D L U	
13. There is no x-intercept.	Q, E	
14. The graph has an x-intercept of (2,0).	L, E, Q	
15. x: -1, 0, 1, 2 y: 2, 4, 8, 16	E	Multiply by 2 ground
16. x: -1, 0, 1, 2 y: 3, 6, 12, 21 +3 +6 +9	Q	Double Difference

+3 +3

X-int (0,0) (10,0)

Max (5, 14)

X-int: (4,0)

EB: $x \to -\infty$ $x \to \infty$
$y \to \infty$ $y \to -\infty$