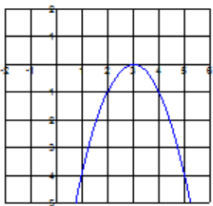
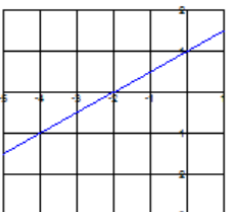
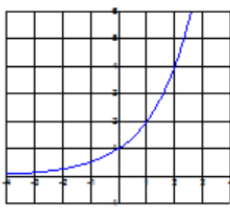


Name: \_\_\_\_\_ Date: \_\_\_\_\_

<p>A.</p> <table border="1"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>4</td> <td>12</td> <td>20</td> <td>28</td> </tr> </table>	x	0	1	2	3	y	4	12	20	28	<p>B.</p> 	<p>C.</p> <p>This type of function has a constant rate of change.</p>	<p>D.</p> <p>Two Forms:  <math>y = ax^2 + bx + c</math>  or  <math>y = a(x - h)^2 + k</math></p>										
x	0	1	2	3																			
y	4	12	20	28																			
<p>E.</p> <p>This type of function has an asymptote.</p>	<p>F.</p> <table border="1"> <tr> <td>x</td> <td>y</td> </tr> <tr> <td>1</td> <td>2</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>3</td> <td>8</td> </tr> <tr> <td>4</td> <td>16</td> </tr> </table>	x	y	1	2	2	4	3	8	4	16	<p>G.</p> $y = ab^x$	<p>H.</p> <table border="1"> <tr> <td>x</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>y</td> <td>500</td> <td>100</td> <td>20</td> <td>4</td> </tr> </table>	x	1	2	3	4	y	500	100	20	4
x	y																						
1	2																						
2	4																						
3	8																						
4	16																						
x	1	2	3	4																			
y	500	100	20	4																			
<p>I.</p> 	<p>J.</p> <p>This type of function has a vertex and axis of symmetry</p>	<p>K.</p> <table border="1"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>26</td> <td>29</td> <td>30</td> <td>29</td> </tr> </table>	x	0	1	2	3	y	26	29	30	29	<p>L.</p> 										
x	0	1	2	3																			
y	26	29	30	29																			
<p>M.</p> <p>Arithmetic Sequence</p>	<p>N.</p> $y = mx + b$	<p>O.</p> <p>This type of function has a common Ratio</p>	<p>P.</p> <p>Geometric Sequences</p>																				

Write the letters of the functions or characteristics under the appropriate category.

**Linear:**

**Quadratic:**

**Exponential:**

Write the **equation** for each of the tables (A, F, H, & K).

**A:**

**F:**

**H:**

**K:**

### Comparing Functions

Tell whether the table of values represents a linear, exponential, or quadratic function.

1.

<b>X</b>	-1	0	1	2	3
<b>Y</b>	15	5	-1	-3	-1

2.

<b>X</b>	-3	-2	-1	0	1
<b>Y</b>	11	8	5	2	-1

3.

<b>X</b>	-1	0	1	2	3
<b>Y</b>	16	8	4	2	1

Write an equation to represent #2 and #3 from above.

2.

3.

4. Describe and correct the error in writing an equation for the function represented by the ordered pairs:  $(-1,1)$ ,  $(0,2)$ ,  $(1,4)$ ,  $(2,8)$ ,  $(3,16)$

<b>X</b>	-1	0	1	2	3
<b>Y</b>	1	2	4	8	16

The ordered pairs represent an exponential function.

$$y = mx + b$$

$$y = 2x + 2$$

Match the scenario to the type. You may not use all types.

- |   |                                      |
|---|--------------------------------------|
| <p>5. Each year, Jane records the number of tulips in her garden. The first year, she counted 5 tulips. She noticed that the tulips triple each year.</p>                             | <p>A. Increasing Linear Function</p> |
| <p>6. Coach Merrill kicks a soccer ball into the air. The height of the ball is measured over the next several seconds. After 3 seconds, it reaches a maximum height of 100 feet.</p> | <p>B. Decreasing Linear Function</p> |
| <p>7. A taxi driver charges an \$8 minimum, plus \$0.10 per mile driven.</p>  | <p>C. Exponential Growth</p>         |
| <p>8. Ms. Wiggins starts with 100 pencils on the first day of school. Each week, her supply decreases by 6 pencils.</p>   | <p>D. Exponential Decay</p>          |
| <p>9. Dr. Jones starts with 6000 bacteria in the lab. Each hour, the amount decreases by half.</p>  | <p>E. Quadratic Function</p>         |
| <p>10. You take out a loan for \$5000, and each month, you pay off \$100.</p>   | <p>F. Arithmetic Sequence</p>        |
|   | <p>G. Geometric Sequence</p>         |