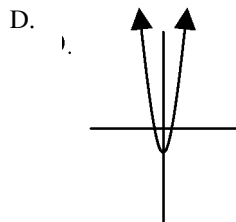
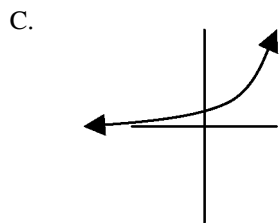
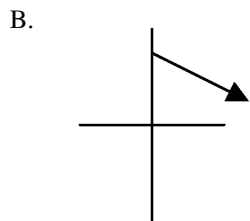
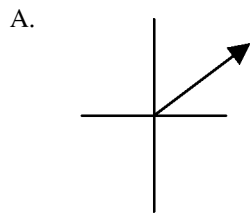


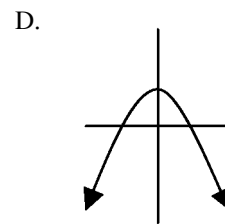
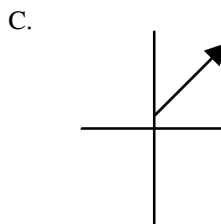
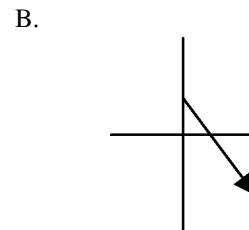
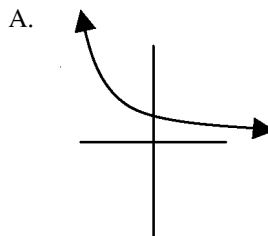
Name: _____

Date: _____

1. Which of the following graphs represents exponential growth? Explain how you know.



2. Which of the following graphs represents exponential decay? Explain how you know.



3. Which of the following tables shows the value of y increasing at an exponential rate? Explain how you know.

A.

x	y
-1	4
0	8
1	12
2	16
3	20

B.

x	y
-1	2
0	3
1	4.5
2	6.75
3	10.125

C.

x	y
-1	0
0	10
1	20
2	30
3	40

D.

x	y
-1	-1
0	0
1	1
2	2
3	3

4. Which of the tables of data exhibits exponential behavior? Explain how you know.

I.

x	y
0	1
1	1.5
2	2.25
3	3.375
4	5.0625

II.

x	y
11	23,842
12	59,461
13	95,052
14	130,678
15	166,275

5. Which of the tables of data exhibits exponential behavior? Explain how you know.

<p>I.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><th>x</th><th>y</th></tr> <tr><td>0</td><td>1</td></tr> <tr><td>1</td><td>1.1</td></tr> <tr><td>2</td><td>1.21</td></tr> <tr><td>3</td><td>1.331</td></tr> <tr><td>4</td><td>1.4641</td></tr> </table>	x	y	0	1	1	1.1	2	1.21	3	1.331	4	1.4641	<p>II.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><th>x</th><th>y</th></tr> <tr><td>10</td><td>10</td></tr> <tr><td>11</td><td>22</td></tr> <tr><td>12</td><td>48</td></tr> <tr><td>13</td><td>104</td></tr> <tr><td>14</td><td>224</td></tr> </table>	x	y	10	10	11	22	12	48	13	104	14	224
x	y																								
0	1																								
1	1.1																								
2	1.21																								
3	1.331																								
4	1.4641																								
x	y																								
10	10																								
11	22																								
12	48																								
13	104																								
14	224																								

6. Joline measured the size of a bacteria colony every day, as shown in the table. How large should she expect the colony to be after 4 days?

Size of Bacterial Colony

Days	0	1	2	3	4
Size (mm ²)	2	6	18	54	

7. Davon measured the weight of dust (in grams) collected in an air cleaner every day, as shown in the table below. How much dust should he expect to collect on the fourth day?

Dust Collection Data

Days	1	2	3	4
Weight (g)	8	24	72	

8. Which of the following tables is an inverse variation? Explain how you know.

A.

x	y
1	5
2	10
4	20

B.

x	y
1	30
2	15
3	10

C.

x	y
1	10
2	15
3	20

D.

x	y
1	15
2	15
3	15

9. Which of the following tables is an inverse variation? Explain how you know.

A.

x	y
3	3
9	1
18	0.5

B.

x	y
-12	24
1	-2
8	-16

C.

x	y
2	2
4	4
8	8

D.

x	y
8	4
6	6
4	8

10. The more time that a person spends exercising, the lower the person's risk of heart disease. Explain why the relationship between exercise and heart disease may best be described as **inverse**.
11. The faster a car travels on the highway, the lower its efficiency (gas mileage). Explain why the relationship between speed and efficiency of a car is best described as **inverse**.
12. The temperature of a gas in a closed container varies directly with its pressure. If the pressure of a closed container is tripled, what happens to its temperature? Support your answer with an explanation, table, or graph.
13. A dentist's monthly income varies directly with his number of patients. If he doubles the number of patients that he treats every month, what happens to his income? Support your answer with an explanation, table, or graph.
14. Pressure under water varies directly with depth. If a diver goes twice as far under water, what happens to the pressure? Support your answer with an explanation, table, or graph.
15. The area of a trapezoid is given by the formula

$$A = \frac{h}{2}(a + b)$$

where h = the height of the trapezoid and a and b are the lengths of the two parallel sides.

If h is tripled and a and b are both multiplied by 4, then what is the effect on A ?