

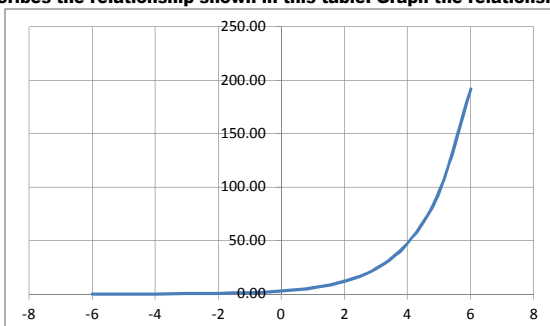
MasterMath

Write and Graph Exponential Growth and Decay Functions

Name _____
Date _____

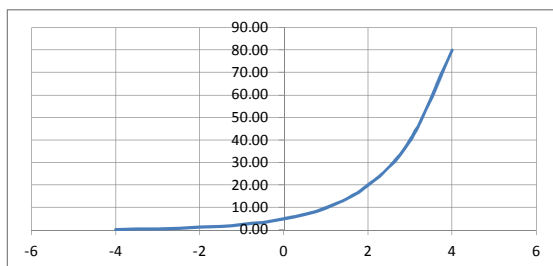
1. Write an equation that describes the relationship shown in this table. Graph the relationship. Describe the domain and range.

x	y
-2	0.75
-1	1.50
0	3.00
1	6.00
2	12.00



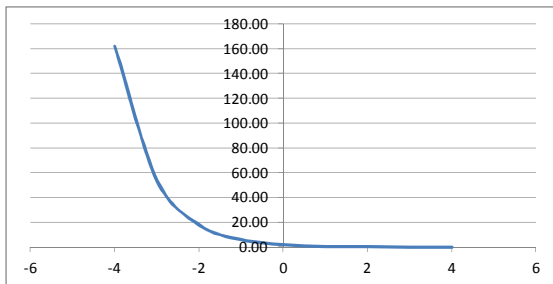
Equation
$y = 3 \cdot 2^x$
Domain
All Real Numbers
Range
All Positive Real Numbers

2. Graph $y = 2^x$.



x	y
-2	0.25
-1	0.50
0	1.00
1	2.00
2	4.00

3. Graph $y = 2 \cdot \frac{1}{3}^x$.



x	y
-2	18.00
-1	6.00
0	2.00
1	0.67
2	0.22

4. A mouse population is 25,000 and is decreasing in size at a rate of 20% per year. What is the mouse population after 3 years?



Equation
$y = 25,000 \cdot .8^x$
Number of Mice
12,800

5. Jackson has \$10 in a savings account. The interest rate is 5%, compounded annually. To the nearest cent, what will be his account balance in 6 years?

Equation
$y = 10 \cdot 1.05^x$
Account Balance
\$13.40

6. Georgetown High School has student elections every year. Lately, the school has seen a 5% decrease in voting from election to election. If 320 students voted this year, how many will be expected to vote 4 years from now?

Equation
$y = 320 \cdot .95^x$
Expected Voters
261