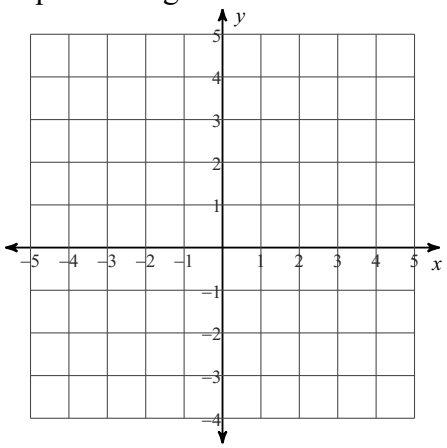
Math-3A Name_____ ID: 1

SM3-A HW #1-7 (Exponential Function)

Date_____ Period____

1) Draw the shape of a graph that represents exponential growth.



2) The parent function of all exponential functions is given by:
$y = b^x$

a) Use interval notation to write the values that 'b' can take on for exponential growth.

b) Use interval notation to write the values that 'b' can take on for exponential decay.

3) For the following, specific, exponential function: $y = 2^x + 3$

a) What is the equation for the horizontal asymptote for the exponential function?

b) What is the domain of the exponential function?

c) What is the range of the exponential function?

d) What is the y-intercept of the function?

4) An exponential function has the following equation: $y = 2^x$

a) Write the equation if it have been moved up 3.

b) Write the equation if it has been reflected across the y-axis.

c) Write the equation if it has been moved down 4 and has been vertically stretched by a factor of 3.

5) $y = 2 \cdot \left(\frac{1}{3}\right)^x + 5$

a) What is the horizontal asymptote?

b) What is the y-intercept?

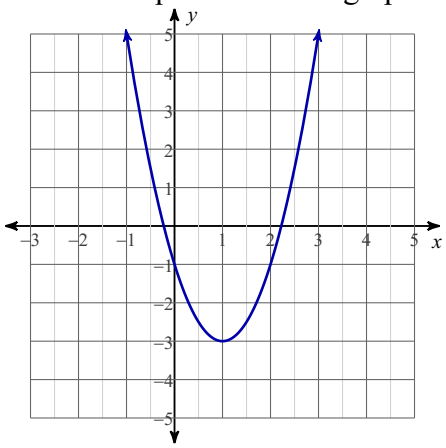
c) Is the function growth or decay?

d) What is the growth factor?

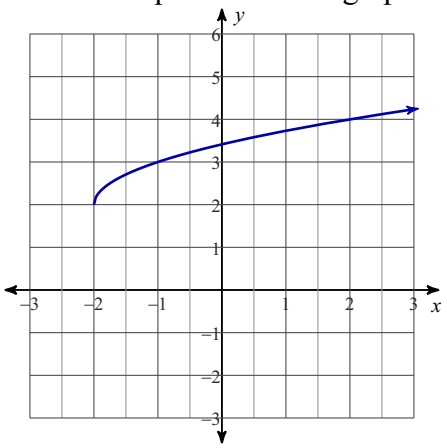
e) What is the domain?

f) What is the range?

6) Write the equation for the graph.



7) Write the equation for the graph.



8) Which functions have inflection points?

9) Which functions have a vertex?

10) Which function has an endpoint?