

Applied Math 40S

CHAPTER 7 TEST

Exponential & Logarithmic Functions

Name _____ Date _____

1. Copy and complete this table.

Characteristics	$y = 2(5)^x$	$y = 3(2)^x$	$y = -6 \log x$	$y = 12 \ln x$
x-Intercept				
y-Intercept				
End Behaviour				
Domain				
Range				
Increasing or Decreasing?				

2. For the function

$$y = 0.5(1.2)^x,$$

find the following characteristics of its graph:

(include a sketch of the function)

- the location of any intercepts

- the end behaviour

- the domain

- the range

- whether it is increasing or decreasing

3. For the function

$$y = 4 \log x,$$

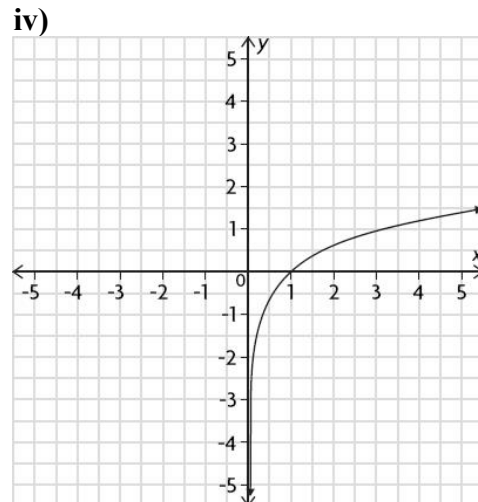
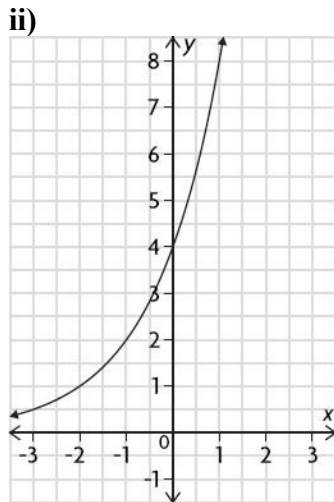
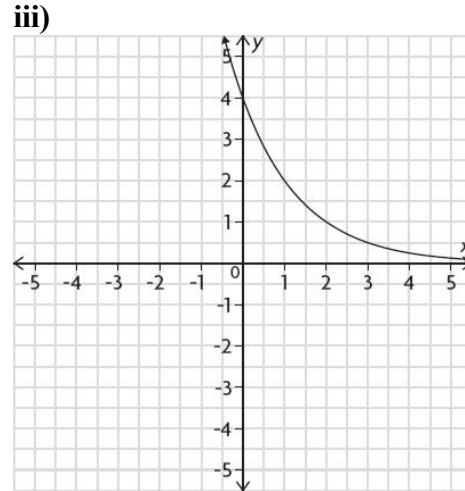
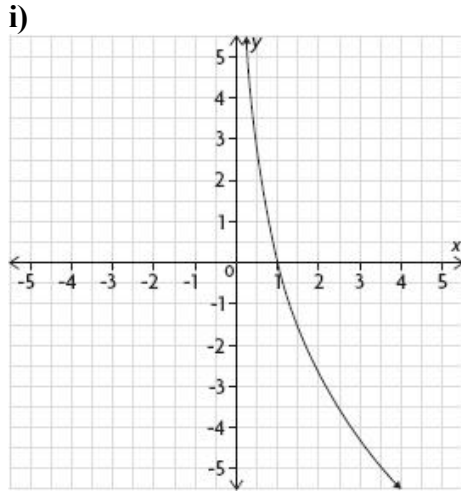
predict the following characteristics of its graph:

(include a sketch of the function)

- the location of any intercepts
- the end behaviour
- the domain
- the range
- whether it is increasing or decreasing

4. Match each function with its graph.

- a)** $f(x) = 4(2)^x$
 b) $y = 2 \log x$
 c) $y = -4 \ln x$
 d) $f(x) = 4\left(\frac{1}{2}\right)^x$



5. A child counted the number of dandelions growing in a nearby yard.

Day	May 1	May 5	May 7	May 12	May 16	May 19	May 24
Number of Dandelions	3	5	7	17	32	55	130

- a) Using your graphing calculator.
Determine the equation of the exponential regression function that models the data. **(Include a sketch of your graph)**

- b) Assuming that the population growth continues at the same rate, how many dandelions will be growing in the yard on May 31?