Advanced Math

3-1

(Day 1)

Exponential Functions and Their Graphs

Exponential Function - the exponential function f with base a is

Euler's Number -

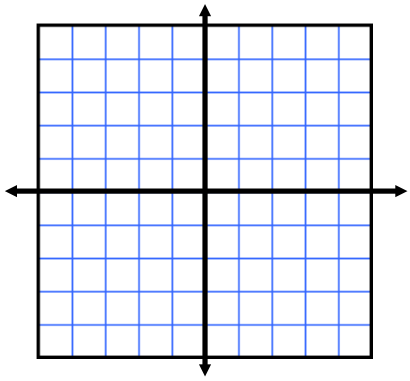
Natural Exponential Function -

Graph $f(x) = 2^x$

Domain:

Range:

Asymptotes:



Use properties of exponents to determine which functions (if any) are the same.

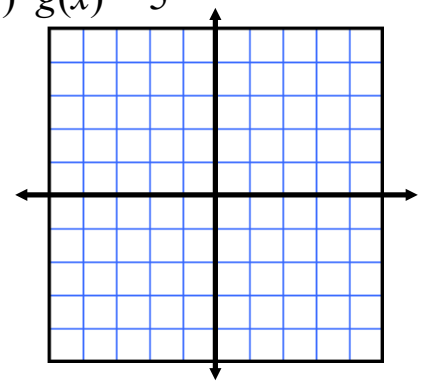
11) $f(x) = 3^{x-2}$

$g(x) = 3^x - 9$

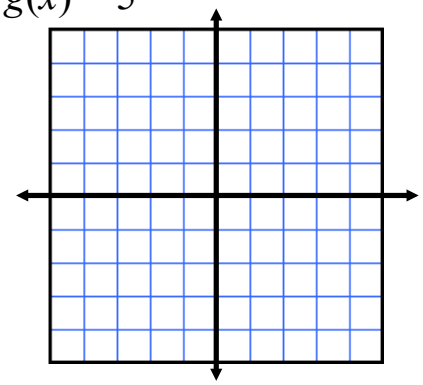
$h(x) = \frac{1}{9}(3^x)$

Graph the exponential function. Label domain, range, asymptotes, mins, maxs.

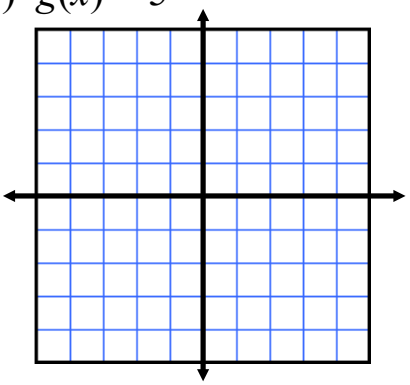
19) $g(x) = 5^{x}$



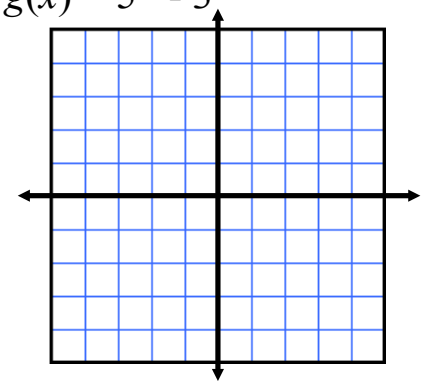
21) $g(x) = 5^{-x}$



23) $g(x) = 5^{x-2}$



25) $g(x) = 5^{-x} - 3$



Graph the functions $y = 3^{x}$ and $y = 4^{x}$ and use the graphs to solve the following inequalities:

a) $4^{x} > 3^{x}$

b) $4^{x} < 3^{x}$

Assignment:
pg. 306
2-14 even,
15-18 all,
20-38 even