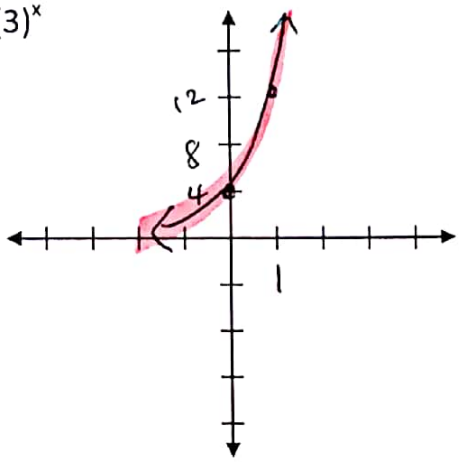
Alg 2 Ch 7

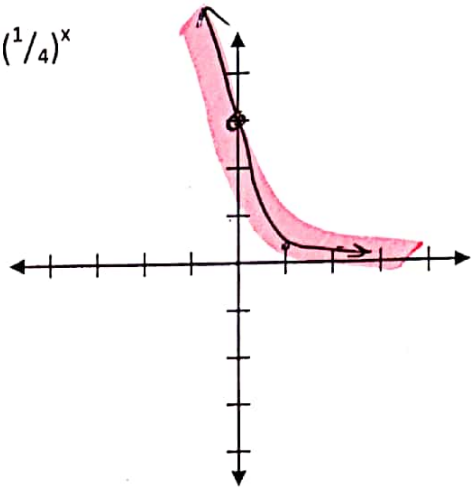
Practice Test

Name Key Per___

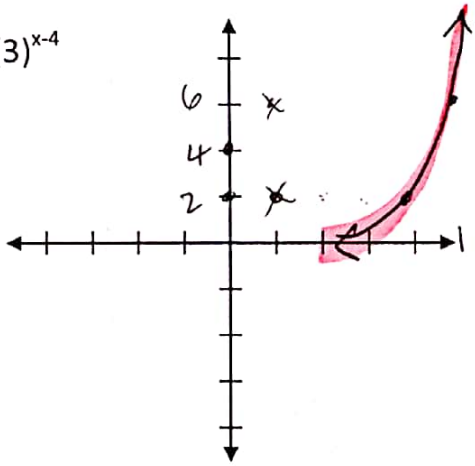
1) a) $f(x) = 4(3)^x$



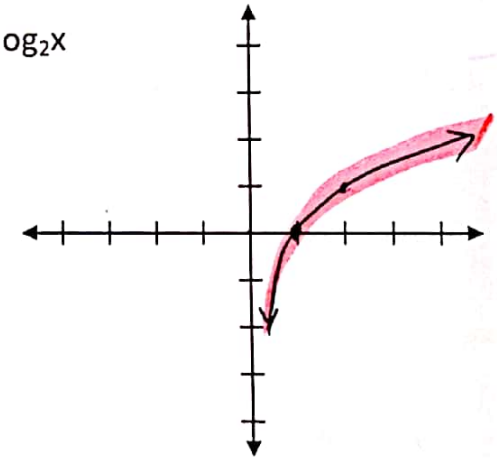
b) $f(x) = 3(^1/_4)^x$



c) $f(x) = 2(3)^{x-4}$



d) $f(x) = \log_2 x$



2) Rewrite in logarithmic form: $2^4 = 16$

$\log_2 16 = 4$

3) Rewrite in exponential form: $\log_3 81 = 4$

$3^4 = 81$

4) Name the base of the ...

a) common logarithm: 10

b) natural logarithm: e

5) Evaluate:

a) $\log_4 16$ 2

b) $\log_3 27$ 3

6) Write as a single logarithm:

a) $\log_3 6 + \log_3 G$ $\log_3 6G$

b) $\ln 7 - \ln 15$ $\ln\left(\frac{7}{15}\right)$

c) $5\log x + 6\log y$ $\log x^5 y^6$

7) Expand each logarithm:

a) $\log x^3 y$ $3\log x + \log y$

b) $\ln(x/3)$ $\ln x - \ln 3$

8) Solve for x. To receive credit show the steps used and circle your answer.

a) $2^x = 64$

$2^x = 2^6$

$x = 6$

b) $5^{x+10} = 25^{3x}$

$5^{x+10} = (5^2)^{3x}$

$5^{x+10} = 5^{6x}$

$x+10 = 6x$

$10 = 5x$

$2 = x$

c) $\log 5x = 2$

$10^2 = 5x$

$100 = 5x$

$20 = x$

d) $\log x - \log 6 = 3$

$\log \frac{x}{6} = 3$

$10^3 = \frac{x}{6}$

$1000 = \frac{x}{6}$

$x = 6000$