PRECALCULUS

Wed. Oct. 4

Sec. 3-1 pp. 166-168

Graph $g(x)$ only: 12, 13, 18, 20
Write equation of graph: 53, 54, 55
25, 31a, 39 *(Given k= -0.120968)*, 41, 42,
a-d at right. *(see answers on back for #35 & #41c)*

Evaluate by hand: a) $(3^{-1} + 3^{-2})^{-1}$ b) $\left(27^{\frac{2}{3}} - 4^{-\frac{1}{2}}\right)^{-1}$

Solve. c) $32^{x+2} = \left(\frac{1}{8}\right)^{3x}$ d) $\left(\sqrt[4]{125}\right)^x = \left(\frac{1}{25}\right)^{2-x}$

Fri., Oct. 6

Sec. 3-2 pp. 178-180
   Evaluate by hand: 3-5, 8, 13, 19,
     20, 23, 24, a, b, c, d, e

Graphing Logs Handout

Sec. 3-4 pp. 196-197
   61, 64, 65, 71, 78, 79, f, g, h

a) $\log_6 1$ b) $e^{2\ln 5}$ c) $8^{\log_8 47}$ d) $\ln e$ e) $\ln 1$
f) $\log_4 32 = x + 3$ g) $\log_{\sqrt[3]{7}} \frac{1}{49} = 2 - x$
h) $2 \log_6 4 - \frac{1}{4}\log_6 16 = \log_6 x$

Wed., Oct. 11

Sec. 3-4 pp. 196-197
   36, 50, 55, 87 *(graph & intersect)*, a-e

Solve. Round to the nearest thousandth.
a) $2^{3-x} = 565$ b) $\ln\sqrt{x+2} = 1$ c) $2^{4x-5} = 3^{x+7}$
d) $\frac{400}{1+e^{-x}} = 350$ e) $\ln x + \ln(x-5) = 7$

Handout on Applications of Exponential & Logarithmic Functions

Fri., Oct. 13

Modeling Data with Regression Functions Handout

Portfolio Due

Tues., Oct. 17

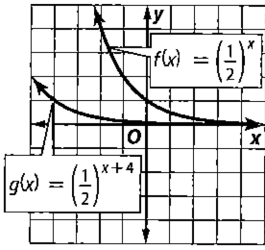Review Exponential & Logarithmic Functions

Journal Due

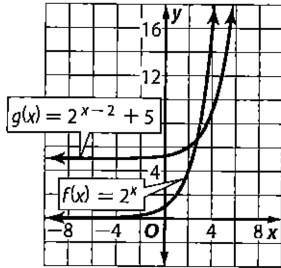## Thurs., Oct. 19

Exponential & Logarithmic Functions Test

ANSWERS

Sec. 3-1 pp. 166-168

12.

$f(x) = \left(\frac{1}{2}\right)^x$

$g(x) = \left(\frac{1}{2}\right)^{x+4}$

14.

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

$f(x) = 2^x$

18.

$g(x) = e^{-x+1}$ $f(x) = e^x$
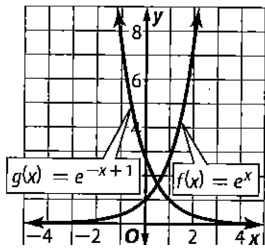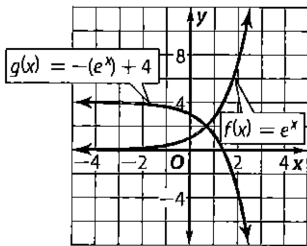
20.

$g(x) = -(e^x) + 4$

$f(x) = e^x$

35. a) 5.8%; $N = 1.19(1.058)^t$
    b) $4.87; $5.45
    c) during 2021
    d) Gasoline prices do not continuously rise.
       They fluctuate up & down with world oil
       prices.
41. a) 16,198 articles; 113% (Wikipedia???)
    b) 2006
    c) 16,193,193,554 (Is this model accurate? Not
       anymore. Growth of Wikipedia slowed down.)
42. a) 16.7% b) 0.166
54. $f(x) = 3(0.25)^{x+9} + 12$
a) $\frac{9}{4}$ b) $\frac{2}{17}$ c) $-\frac{5}{7}$ d) $\frac{16}{5}$

Sec. 3-2 pp. 178-180

2. 1
4. 1
8. -2
10. 2
20. -12
24. 3
a. 0
b. 25
c. 47
d. 1
e. 0

Sec. 3-4 pp. 196-197

64. -1, 1
78. 25
f. -1/2
g. 8
h. 8

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36. -2.28
50. $\ln 10 \approx 2.30$
a. -6.142
b. 5.389
c. 6.664
d. 1.946
e. 35.710