Math 06, Homework 7 on Sections 10.4, 10.5
due Wed, Oct 23 at the start of class.

Write all your answers on a separate sheet. It is very important that you show clearly any work you had to do to get the answer. These first ten questions are 1 point each. Make sure your answer matches the solution on page 2.

(1) Let $f(x) = (2/3)^x$ and evaluate: $f(0)$

(2) Let $g(x) = 4^{x+1}$ and evaluate: $g(2)$

(3) Graph: $y = 3^x$

(4) Solve: $2^x = 128$

(5) Solve: $3^{x-1} = \dfrac{1}{27}$

(6) Graph: $y = \log_3 x$

(7) Convert to exponential form: $\log_8 4 = 2/3$

(8) Convert to logarithmic form: $9^3 = 729$

(9) Evaluate: $\log_2 64$

(10) Solve: $\log_3 x = 1/4$

These next ten questions are 3 points each. Show clearly all your working out and reasoning.

(11) Let $f(x) = 2^{x+2}$ and evaluate: $f(-6)$

(12) Let $g(x) = (3/5)^x$ and evaluate: $g(-2)$

(13) Graph and sketch the horizontal asymptote: $y = (1/2)^x - 2$

(14) Solve: $5^{x+5} = 1$

(15) Evaluate: $\log_{10} 1000000$

(16) Use a calculator to find e^3 correct to 4 places.

(17) Evaluate: $\log_7 \sqrt{7}$

(18) Convert to exponential form: $\log_3 \dfrac{1}{81} = -4$

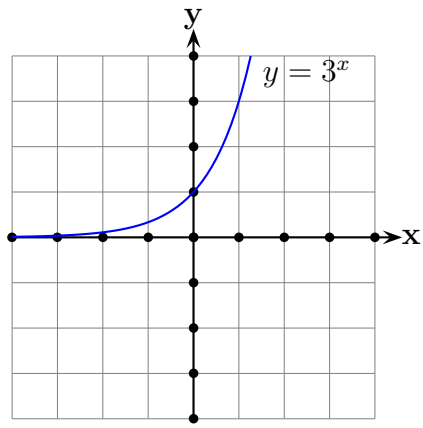
(19) Solve: $\log_2 x = 8$

(20) Solve: $\log_b 8 = -3$

Answers to questions (1)-(10):

(1) $f(0) = 1$

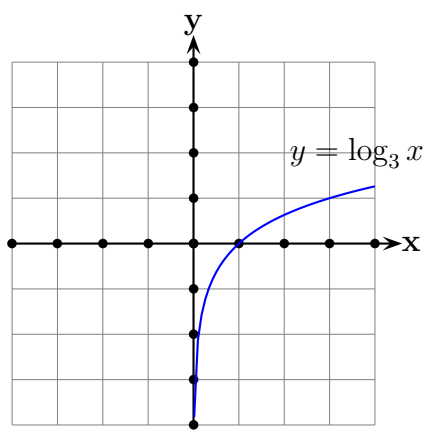
(2) $g(2) = 64$



(3)

(4) $x = 7$

(5) $x = -2$



(6)

(7) $8^{2/3} = 4$

(8) $\log_9 729 = 3$

(9) $\log_2 64 = 6$

(10) $x = 3^{1/4} = \sqrt[4]{3}$