HOMEWORK 5

Due Date 11/22/05

For Recitation 04 : MAT 123

Problem 1 Find the domain of the function \( \log_2(x + 1) + 1 \).

Problem 2 Graph the function \( f(x) = 3^{x+1} - 4 \).

Problem 3 State whether the following are true or false :

(i) The graph of rational function can never cross a vertical asymptote.
(ii) The graph of a rational function can never cross a horizontal asymptote.
(iii) Is there a rational function, the graph of which has no \( x \)-intercept?

Note - Writing the correct answer is enough to earn full score though you may/should try to draw some pictures to see what is going on!

Problem 4 Evaluate without using a calculator : \( \log_27 \).