

HOMWORK 7

Due Date 12/13/05

For Recitation 04 : MAT 123

Problem 1 Solve for x : $\log_2 x + \log_4 x^2 = 8$.

Problem 2 State whether the following are true or false :

- (i) $f(x) = \log_2 x + 3$ has no solution.
- (ii) $f(x) = (\log_3 x^2)^2 + 1$ has a solution.
- (iii) $f(x) = (x - 1)^2 + 1$ has no zeroes.
- (iv) $f(x) = (x^2 + 2)^3$ has no zeroes.
- (v) $f(x) = \frac{x^2+x+1}{x^3-1}$ has a HA.
- (vi) $f(x) = x + \frac{1}{x}$ has a SA.
- (vii) $f(x) = \sin^2 x - 2$ has a solution.
- (viii) $f(x) = \cos^2 x + \sin^2 x - 1$ is the zero function.
- (ix) $f(x) = 5 \cos^2 x + 6$ attains a minimum value of 1.
- (x) $f(x) = 2 \sin x + 3$ has a period of π .