Assignment 4

The Factor Theorem

Answer ALL questions in the spaces provided for your answer.

Give any fractions as a decimal correct to 1 d.p.

List factors in order e.g. $(x-1)(x+1)(2x-1)(2x+3)$

1. Find the values of k for which

   (a) $x-1$ is a factor of $3x^3+7x^2-kx+5$. $k =$ _____

   (b) $x+4$ is a factor of $x^3+5x^2-kx+48$. $k =$ _____

2. Given that $x-1$ is a factor of the expression x^3-kx+2, find the value of k and the remainder when the expression is divided by $x-2$.

   $k =$ _____ Remainder = _____

3. Given that $x+1$ and $x-3$ are factors of the expression $x^4+px^3+5x^2+5x+q$, find the values of p and q. Hence, find the other two factors of the expression.

   $p =$ _____ $q =$ _____ Factors = _____

4. Factorize completely

   (a) x^3-5x^2-x+5 _____

   (b) $2x^3+x^2-13x+6$ _____

LIVEWORKSHEETS