Assignment 3

The Remainder Theorem

Answer ALL questions in the spaces provided for your answers.

1. Find the remainder when:

   (a) $2x^3 + 7x^2 - 6x + 9$ is divided by $x + 1$. R = _____

   (b) $2x^3 + 4x^2 - 6x + 7$ is divided by $2x - 1$. R = _____

2. Find the value of k if:

   (a) $x^3 + x^2 - kx + 4$ has a remainder of 8 when divided by $x - 2$.

   $k =$ _____

   (b) $kx^3 + x^2 - 3x - 2$ has a remainder of 0 when divided by $x + 2$.

   $k =$ _____

3. The expression $2x^3 + hx^2 - 6x + 1$ leaves a remainder of $2k$ when divided by $x + 2$ and when the expression is divided by $x - 1$ the remainder obtained is k. Find the values of h and k.

   $h =$ _____ $k =$ _____