Solution to Assignment 1c

B1(a) $(3+4x-2x^2+5x^3)-(1-2x+5x^3) \quad =$

$$\begin{array}{rrrrrrrr} & 3 & + & 4x & - & 2x^2 & + & 5x^3 \\ -1 & (1 & - & 2x & & & + & 5x^3) \end{array} \quad =$$

$$\begin{array}{rrrrrrrr} & 3 & + & 4x & - & 2x^2 & + & 5x^3 \\ + & 1 & + & 2x & & & - & 5x^3 \\ \hline & 2 & + & 6x & - & 2x^2 & & \end{array}$$

B1(b) $(-2)(2+x+x^2+3x^3-x^4) = ((-2)(2)) + ((-2)(1))x + ((-2)(1))x^2 + ((-2)(3))x^3 + ((-2)(-1))x^4 = -4-2x-2x^2-6x^3+2x^4$

B1(c) $(-1)(2+x+4x^2+2x^3)-2(-1-2x-2x^2-x^3) = ((-1)(2))+((-1)(1))x+((-1)(4))x^2+((-1)(2))x^3)+(((-2)(-1))+((-2)(-2))x+((-2)(-2))x^2+((-2)(-1))x^3) = (-2-x-4x^2-2x^3)+(2+4x+4x^2+2x^3) =$

$$\begin{array}{rrrrrrrr} - & 2 & - & x & - & 4x^2 & - & 2x^3 \\ + & 2 & + & 4x & + & 4x^2 & + & 2x^3 \\ \hline & & & 3x & & & & \end{array}$$

B1(d) $3(1+x+x^3)+2(x-x^2+x^3) = (((3)(1))+((3)(1))x+((3)(1))x^3)+(((2)(1))x+((2)(-1))x^2+((2)(1))x^3) = (3+3x+3x^3)+(2x-2x^2+2x^3)$

$$\begin{array}{rrrrrrrr} & 3 & + & 3x & & & + & 3x^3 \\ + & & & 2x & - & 2x^2 & + & 2x^3 \\ \hline & 3 & + & 5x & - & 2x^2 & + & 5x^3 \end{array}$$

B1(e) $0(1+3x^3-4x^4) = ((0)(1))+((0)(3))x^3+((0)(-4))x^4 = 0+0x^3+0x^4 = 0$