Questions

1- Find the Coefficient of x^2 and x^3 in the expansion of $(1+x)^7$

2- Expand $(5+y)^4$ in ascending powers of y

3- Expand $(1+x+x^2)(1-x)^8$ in ascending powers of x upto and including the terms in x^3

4- Given that $(1-2x)^5(2+x)^6 = a + bx + cx^2 + dx^3 + \ldots$

Find the values of the Constants a, b, c and d.

5- Write down the expansion of $(1+y)^4$. Hence find the first four terms in the expansion of $(1+x+x^2)^4$.

Approximate values:

1. Expand $(2+x)^4$ and use your expansion to find:

a) $(2\cdot1)^4$

b) $(1\cdot9)^4$

2. Expand $(1+4x)^{14}$ in ascending powers of x, upto and including the 4th term. Hence evaluate $(1\cdot0004)^{14}$ correct to 4 d.p

3. Expand the following in ascending powers of x

a) $(1+2x)(1-x)^6$

b) $(1+2x-2x^2)(1+2x)^7$

c) $(1+x+x^2)^6$

d) $(1+2x-x^2)^5$

4. By first factorising the quadratic $3-7x-6x^2$, deduce the first three terms in the binomial expansion of $(3-7x-6x^2)^5$

5. Use the binomial expansion of $(1+x)^4$ to the first four terms to find $(1\cdot01)^4$ correct to five significant figures