**Binomial Expansion GREEN**

1. What is the expansion of:

a. (a + 2)4

b. (x – 3)5

c. (2x – 3)3

2. Find the coefficient of x3 in the expansions of:

a. (x + 2)6

b. (3 + 2x)3

c. (3 – 2x)4

3. Use the binomial expansion to find the first four terms, in ascending powers of x, of:

a. (x + 4)6

b. (1 – 2x)7

c. (2 + 5x)4

d. (1 + )8

4. The coefficient of x3 in the expansion of (3 + bx)5 is -720. Find the value of the constant b.

**Binomial Expansion AMBER**

1. What is the expansion of:

a. (a + 2)4

1 \_\_\_\_\_\_\_\_\_ + 4 \_\_\_\_\_\_\_\_\_ + 6 \_\_\_\_\_\_\_\_\_ + 4 \_\_\_\_\_\_\_\_\_ + 1 \_\_\_\_\_\_\_\_\_

b. (x – 3)5

c. (2x – 3)3

2. Find the coefficient of x3 in the expansions of:

a. (x + 2)6

x 3 23 =

b. (3 + 2x)3

c. (3 – 2x)4

3. Use the binomial expansion to find the first four terms, in ascending powers of x, of:

a. (x + 4)6

x 0 46 + x 1 45 + x 2 44 + x 3 43

b. (1 – 2x)7

c. (2 + 5x)4

d. (1 + )8

4. The coefficient of x3 in the expansion of (3 + bx)5 is -720. Find the value of the constant b.

(bx)3 32 = -720 x 3

**Binomial Expansion RED**

1. What is the expansion of:

a. (a + 2)4

1 a 4 20 + 4 a 3 21 + 6 a 2 22 + 4 a 1 23 + 1 a 0 24

= a 4 +

b. (x – 3)5

1 \_\_\_\_\_\_\_\_ + 5 \_\_\_\_\_\_\_\_ + 10 \_\_\_\_\_\_\_\_ + 10 \_\_\_\_\_\_\_\_ + 5 \_\_\_\_\_\_\_\_ + 1 \_\_\_\_\_\_\_\_

c. (2x – 3)3

2. Find the coefficient of x3 in the expansions of:

a. (x + 2)6

x 3 23 =

b. (3 + 2x)3

c. (3 – 2x)4

3. Use the binomial expansion to find the first four terms, in ascending powers of x, of:

a. (x + 4)6

x 0 46 + x 1 45 + x 2 44 + x 3 43

= 4096 +

b. (1 – 2x)7

c. (2 + 5x)4

d. (1 + )8

4. The coefficient of x3 in the expansion of (3 + bx)5 is -720. Find the value of the constant b.

(bx)3 32 = -720 x 3