

Worksheet 11.4

Find the coefficient of

1)  $x$  in the expansion of  $(x + 3)^5$

405

2)  $b$  in the expansion of  $(3 + b)^4$

108

3)  $x^3y^2$  in the expansion of  $(x - 3y)^5$

90

4)  $a^2$  in the expansion of  $(2a + 1)^5$

40

Find the term described.

5) 2<sup>nd</sup> term in the expansion of  $(y - 2x)^4$

$-8y^3x$

6) 4<sup>th</sup> term in the expansion of  $(4y + x)^4$

$16yx^3$

Expand Completely described.

Name: \_\_\_\_\_ # \_\_\_\_\_

7)  $(2m - 1)^4$

$$16m^4 - 32m^3 + 24m^2 - 8m + 1$$

8)  $(x - 3)^5$

$$x^5 - 15x^4 + 90x^3 - 270x^2 + 405x - 243$$

Evaluate

9)  $8! = 40320$

10)  $\frac{12!}{8!} = \frac{12 \cdot 11 \cdot 10 \cdot 9 \cdot 8!}{8!} = 11,880$

11)  $\frac{16!}{12! 4!} = \frac{16 \cdot 15 \cdot 14 \cdot 13 \cdot 12!}{12! \cdot 4 \cdot 3 \cdot 2 \cdot 1} = 1820$