Binomial Expansion Practice

1. $(2x-3y)^4 = x^4 - 96x^3y + 216x^2y^2 - 216xy^3 + 81y^4$

$1(2x)^4 \quad 4(2x)^3(-3y) \quad 6(2x)^2(-3y)^2 \quad 4(2x)(-3y)^3 \quad 1(-3y)^4$

$16x^4 \quad 4(8x^3)(-3y) \quad 6(4x^2)(9y^2) \quad 4(2x)(-27y^3) \quad 81y^4$

$2x^4 - 96x^3y + 216x^2y^2 - 216xy^3 + 81y^4$

2. $(4z+5)^3 = 64z^3 + 240z^2 + 300z + 125$

$1(4z)^3 \quad 3(4z)^2(5) \quad 3(4z)(5)^2 \quad 1(5)^3$

$64z^3 \quad 240z^2 \quad 300z \quad 125$

$64z^3 + 240z^2 + 300z + 125$

p. 310 #14-17

14. $(x-2)^4 =$

$1x^4 \quad 4x^3(-2) \quad 6x^2(-2)^2 \quad 4x(-2)^3 \quad 1(-2)^4$

$x^4 - 8x^3 + 24x^2 - 32x + 16$

15. $(2x+y)^4 =$

$1(2x)^4 \quad 4(2x)^3(y) \quad 6(2x)^2(y)^2 \quad 4(2x)(y)^3 \quad 1(y)^4$

$16x^4 + 32x^3y + 24x^2y^2 + 8xy^3 + y^4$

16. $(x+2y)^3 =$

$1x^3 \quad 3x^2(2y) \quad 3x(2y)^2 \quad 1(2y)^3$

$x^3 + 6x^2y + 12xy^2 + 8y^3$

17. $(2x-y)^5$

$1(2x)^5 \quad 5(2x)^4(-y) \quad 10(2x)^3(-y)^2 \quad 10(2x)^2(-y)^3 \quad 5(2x)(-y)^4 \quad 1(-y)^5$

$32x^5 - 80x^4y + 80x^3y^2 - 40x^2y^3 + 10xy^4 - y^5$