6.4 even p 312

(2) $x^2 + 3xy + y^2$ $x=2, y=-3$

$= (2)^2 + 3(2)(-3) + (-3)^2$

$= 4 - 18 + 9$

$= \boxed{-5}$

(4) $x^3y - xy + 2$

$= (2)^3(-3) - (2)(-3) + 2$

$= 8(-3) + 6 + 2$

$= -24 + 8$

$= \boxed{-16}$

(6) $3x^2y - 4y + 5$

$= 3(2)^2(-3) - 4(-3) + 5$

$= 12(-3) + 12 + 5$

$= -36 + 17$

$= \boxed{-19}$

(8) $12x^4y - 5x^3y^7 - x^2 + y$

terms	$12x^4y$	$-5x^3y$	$-x^2$	y
coefficients	12	-5	-1	4
degrees	5	4	2	0

Polynomial of degree 5

(10) $(-2x^2y + xy) + (4x^2y + 7xy)$

$= \boxed{2x^2y + 8xy}$

(12) $(7x^2y + 5xy + 13) + (-3x^2y + 6xy + 4)$

$= \boxed{4x^2y + 11xy + 17}$

(14) $(6x^4y^2 - 10x^2y^2 + 7xy) + (-12x^4y^2 - 3x^2y^2 - xy)$

$= \boxed{-6x^4y^2 - 13x^2y^2 + 6xy}$

(16) $(x^4 - 7xy - 5y^3) - (6x^4 - 3xy + 4y^3)$

$= \boxed{-5x^4 - 4xy - 9y^3}$

6.4 even p. 1—

(18) $(5x^4y^2 + 6x^3y - 7y) - (3x^4y^2 - 5x^3y - 6y + 8x)$

$= \boxed{2x^4y^2 + 11x^3y - y - 8x}$

(20) $(x^3 - y^3) - (-6x^3 + x^2y - xy^2 + 2y^3)$

$\boxed{7x^3 - x^2y + xy^2 - 3y^3}$

(22) $7a^2b^2 - 5ab^2 + 6b^2$

$+ \; -10a^2b^2 + 6ab^2 + 6b^2$

$\boxed{-3a^2b^2 + ab^2 + 12b^2}$

(24) $13x^2y^4 - 17xy^2 + xy$

$-(-7x^2y^4 - 8xy^2 - xy)$

$\boxed{20x^2y^4 - 9xy^2 + 2xy}$

(26) $\left[(6x + 15y) + (x - 19y)\right] - (23x - 5y)$

$= [7x - 4y] - 23x + 5y$

$= \boxed{-16x + y}$

(28) $(10x^2y)(5xy)$

$= \boxed{50x^3y^2}$

6.4 evens p 372-373

(30) $(7x^4y^5)(-10x^7y^{11})$

$= \boxed{-70x^{11}y^{16}}$

(32) $7xy(8x+3y)$

$= \boxed{56x^2y + 21xy^2}$

(34) $6x^2y(5x^2-9y)$

$= \boxed{30x^4y - 54x^2y^2}$

(36) $2ab^2(20a^2b^3+11ab)$

$= \boxed{40a^3b^5 + 22a^2b^3}$

(38) $-b(a^3-ab+b^3)$

$= \boxed{-a^3b + ab^2 - b^4}$

(40) $(x+9y)(6x+7y)$

$= x(6x+7y) + 9y(6x+7y)$

$= \boxed{6x^2 + 7xy + 54xy + 63y^2}$

(42) $(3x-y)(2x+5y)$

$= 3x(2x+5y) - y(2x+5y)$

$= 6x^2 + 15xy - 2xy - 5y^2$

$= \boxed{6x^2 + 13xy - 5y^2}$

(44) $(7xy+1)(2xy-3)$

$= 7xy(2xy-3) + 1(2xy-3)$

$= 14x^2y^2 - 21xy + 2xy - 3$

$= \boxed{14x^2y^2 - 23xy - 3}$

(46) $(2x+5y)^2$

$= \boxed{4x^2 + 20xy + 25y^2}$

(48) $(xy-5)^2$

$= \boxed{x^2y^2 - 10xy + 25}$

(50) $(2x^2+y^2)^2$

$= \boxed{4x^4 + 4x^2y^2 + y^4}$

(52) $(x^2-y^2)^2$

$= \boxed{x^4 - 2x^2y^2 + y^4}$

(54) $(x+5y)(x-5y)$

$= \boxed{x^2 - 25y^2}$

(56) $(ab+2)(ab-2)$

$= \boxed{a^2b^2 - 4}$

6.4 even p373

(58) $(x^2+y)(x^2-y)$

$= \boxed{x^4 - y^2}$

(60) $(5a^2b+a)(5a^2b-a)$

$= \boxed{25a^4b^2 - a^2}$

(62) $(7xy^2-10y)(7xy^2+10y)$

$= \boxed{49x^2y^4 - 100y^2}$

(64) $(a-b)(a^2+b^2)$

$= a(a^2+b^2) - b(a^2+b^2)$

$= \boxed{a^3+ab^2-a^2b-b^3}$

(66) $(x+y)(x^2+5xy+y^2)$

$= x(x^2+5xy+y^2) + y(x^2+5xy+y^2)$

$= x^3+5x^2y+xy^2+x^2y+5xy^2+y^3$

$= \boxed{x^3+6x^2y+6xy^2+y^3}$

(68) $(x-y)(x^2-4xy+y^2)$

$= x(x^2-4xy+y^2) - y(x^2-4xy+y^2)$

$= x^3-4x^2y+xy^2-x^2y+4xy^2+y^3$

$= \boxed{x^3-5x^2y+5xy^2+y^3}$

(70) $(xy+ab^2)(xy-ab^2)$

$= \boxed{x^2y^2 - a^2b^4}$

(72) $(x^2+1)(xy^4+y^2+1)$

$= x^2(xy^4+y^2+1) + 1(xy^4+y^2+1)$

$= \boxed{x^3y^4 + x^2y^2 + x^2 + xy^4 + y^2 + 1}$

(74) $(x^2y^2-5)^2$

$= \boxed{x^4y^4 - 10x^2y^2 + 25}$

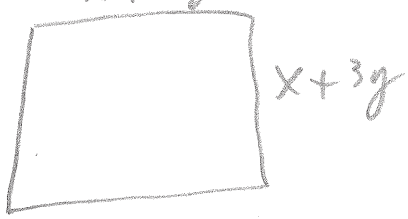
(76) $(x+y+1)(x-y+1)$

$= x(x-y+1) + y(x-y+1) + 1(x-y+1)$

$= x^2 - xy + x + xy - y^2 + y + x - y + 1$

$= \boxed{x^2 + 2x - y^2 + 1}$

(78)

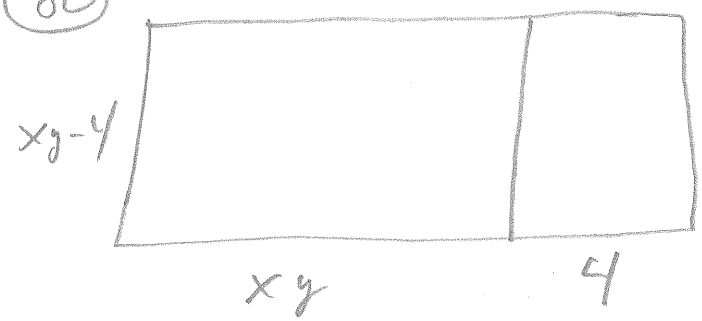


$A = l \cdot w$

$= (x+3y)(x+3y)$

$= \boxed{x^2 + 6y + 9y^2}$

(80)



$A = l \cdot w$

$= (xy-4)(xy+4)$

$= \boxed{x^2y^2 - 16}$

(82) $[(1-a^3b^3)(1+a^3b^3)]^2$

$= [1 - a^6b^6]^2$

$= \boxed{1 - 2a^6b^6 + a^{12}b^{12}}$