Math Analysis

P.4 Polynomials & P.5 Factoring Polynomials

Degree: 6

$7x^2y^3 - 17x^4y^2 + x - 6y^2 + 9$

$5 \quad 6 \quad 1 \quad 2 \quad 0$

↑

Degree: 2 $x^2 + 4x - 1$

93) $V = lwh$

$V = x(8-2x)(10-2x)$

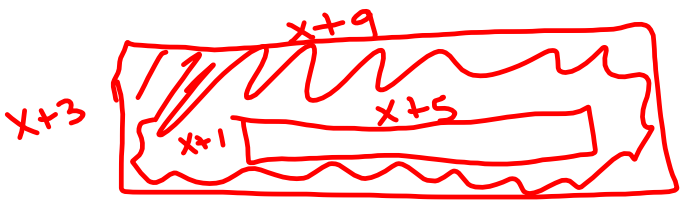
$(8x-2x^2)(10-2x)$

FOIL

$80x - 16x^2 - 20x^2 + 4x^3$

$4x^3 - 36x^2 + 80x$

95)



Area of Big − Area of Small

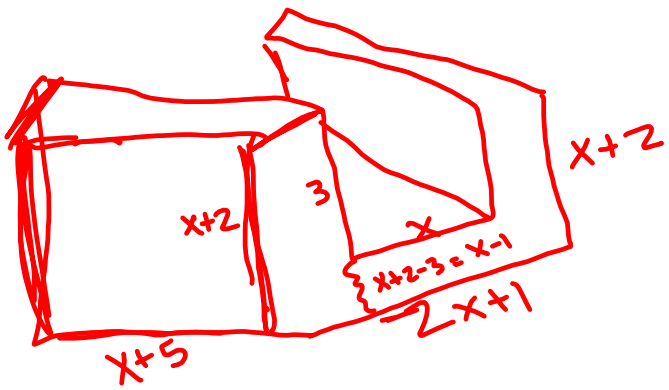
$(x+3)(x+9)$ − $(x+1)(x+5)$

$x^2+3x+9x+27$ − $(x^2+x+5x+5)$

$x^2+12x+27$ $-x^2-6x-5$

$6x+22$

109)



Whole − Middle

$(x+5)(2x+1)(x+2)$ − $3\cdot x\cdot(x+5)$

$(2x^2+10x+x+5)(x+2)$ $3x(x+5)$

$(2x^2+11x+5)(x+2)$ $3x^2+15x$

$2x^3+11x^2+5x+4x^2+22x+10$ $-(3x^2+15x)$

$2x^3+15x^2+27x+10$ $-3x^2-15x$

$2x^3+12x^2+12x+10$

P.5
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65) $\frac{3x^3}{3x} - \frac{3x}{3x} = 3x(x^2-1)$

$3x(x+1)(x-1)$

67) $4x^2-4x-24 = 4(x^2-x-6)$

$4(x-3)(x+2)$

69) $2x^4-162 = 2(x^4-81)$

$(x^2)^2 - 9^2$

$2(x^2-9)(x^2+9)$

$2(x-3)(x+3)(x^2+9)$

71) $x^3+2x^2-9x-18$

$x^2(x+2) - 9(x+2)$

$(x+2)(x^2-9)$

$(x+2)(x-3)(x+3)$

77) x^2+64 Prime

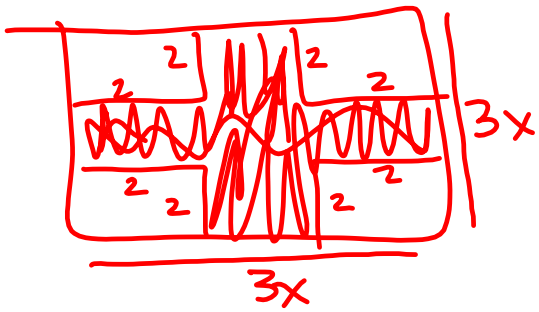
87) $9b^2x - 16y - 16x + 9b^2y$

$9b^2(x+y) - 16(y+x)$

$(x+y)(9b^2-16)$

$(x+y)(3b+4)(3b-4)$

117)



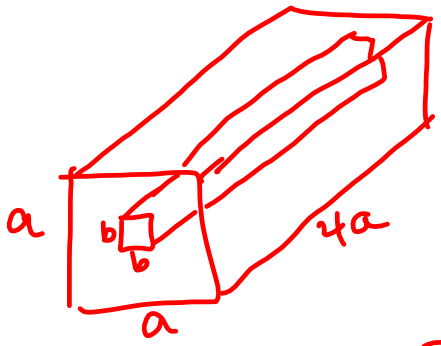
a) Area = Whole − 4 sq's

$3x \cdot 3x - 4(2 \cdot 2)$

$9x^2 - 16$

b) $(3x+4)(3x-4)$

121)



Out Vol − Ins Vol

$a \cdot a \cdot 4a - b \cdot b \cdot 4a$

$4a^3 - 4ab^2$

$4a(a^2 - b^2)$

$4a(a-b)(a+b)$

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ec: 108, 116