

HW 10

$$40. -5x^2 + 1 + 3x^2 - 5 \\ = -2x^2 - 4$$

$$41. 15x^2 - 6 + 8 \cdot 3x^3 + 14 \cdot 7x^2 + 17 \\ = 83x^3 + 29 \cdot 7x^2 + 11$$

$$47. -15z^2 + 5z$$

$$48. -15x^2 - 6x$$

$$59. (x+7)(2x+3) \\ = 2x^2 + 17x + 21$$

$$60. (3x+1)(x-5) \\ = 3x^2 - 14x - 5$$

$$61. (x^2 + 2x + 3)(x^2 - 2x + 3) \\ = x^4 - 2x^3 + 3x^2 + 2x^3 - 4x + 6 + 3x^2 - 6x + 9 \\ = x^4 + 6x^2 - 10x + 15$$

$$62. (x^2 + x - 4)(x^2 - 2x + 1) \\ = x^4 - 2x^3 + x^2 + x^3 - 2x^2 + x - 4x^2 + 8x - 4 \\ = x^4 - x^3 - 5x^2 + 9x - 4$$

$$69. (x+2y)(x-2y) \\ = x^2 - 4y^2$$

$$70. (4a+5b)(4a-5b) \\ = 16a^2 - 25b^2$$

$$71. (2x+3)(2x+3) \\ = 4x^2 + 6x + 6x + 9 \\ = 4x^2 + 12x + 9$$

$$72. (5-8x)^2 \\ = 25 - 40x - 40x + 64x^2 \\ = 64x^2 - 80x + 25$$

$$73. (x+1)^3 \\ = 1x^3 + 3x^2 \cdot 1 + 3x \cdot 1^2 + 1^3 \\ = x^3 + 3x^2 + 3x + 1$$

$$97. 5x^2 + 5x - 3x^2 - 3x \\ = 2x^2 + 2x$$

$$98. (2x-1)(x+3) + 3(x+3) \\ = 2x^2 - x + 6x - 3 + 3x + 9 \\ = 2x^2 + 8x + 6$$

$$99. (u+2)(u-2)(u^2+4) \\ = (u^2-4)(u^2+4) \\ = u^4 + 16$$

$$107. a) 500(1+r)(1+r) \\ = 500(1+2r+r^2) \\ = 500r^2 + 1000r + 500$$

b) plug in decimals for r.