Pre-Calculus 1 Assignment Wednesday, September 13, 2006 Hour 2 Mr. Ewell
01.03 Algebraic Expressions Pages 44-46, #'s 48-90 One less than Multiples of 3

Exer. 31-61: Simplify the expression.

50. $\dfrac{\frac{x}{y^2} - \frac{y}{x^2}}{\frac{1}{y^2} - \frac{1}{x^2}}$

53. $\dfrac{\frac{r}{s} + \frac{s}{r}}{\frac{r^2}{s^2} - \frac{s^2}{r^2}}$

56. $\dfrac{(x + h)^3 + 5(x + h) - (x^3 + 5x)}{h}$

59. $\dfrac{\frac{1}{(x + h)^3} - \frac{1}{x^3}}{h}$

Exer. 61-64: Rationalize the denominator.

62. $\dfrac{16x^2 - y^2}{2\sqrt{x} - \sqrt{y}}$

Exer. 65-68: Rationalize the numerator.

65. $\dfrac{\sqrt{a} - \sqrt{b}}{a^2 - b^2}$

68. $\dfrac{\sqrt{x} - \sqrt{x - h}}{h\sqrt{x}\sqrt{x + h}}$

Exer. 69-72: Express as a sum of terms of the form ax^r, where r is a rational number.

71. $\dfrac{(x^2 + 2)^2}{x^5}$

Exer. 73-76: Express as a quotient.

74. $x^{-4} - x$

Exer. 77-90: Simplify the expression.

77. $(2x^2 - 3x + 1)(4)(3x + 2)^3(3) + (3x + 2)^4(4x - 3)$

80. $(3x + 2)^{1/3}(2)(2x - 5)(4) + (4x - 5)^2\left(\frac{1}{3}\right)(3x + 2)^{-2/3}(3)$

83. $\dfrac{(6x + 1)^3(27x^2 + 2) - (9x^3 + 2x)(3)(6x + 1)^2(6)}{(6x + 1)^6}$

86. $\dfrac{(x^2 - 5)^4(3x^2) - x^3(4)(x^2 - 5)^3(2x)}{[(x^2 - 5)^4]^2}$

89. $\dfrac{(4x^2 + 9)^{1/2}(2) - (2x + 3)\left(\frac{1}{2}\right)(4x^2 + 9)^{-1/2}(8x)}{[(4x^2 + 9)^{1/2}]^2}$