**Precalculus Algebra Review Worksheet #2 Factoring Selected Solutions**

**Factor each of the following completely.**

**2.** $9x^4 - 36x^2 = \underline{9x^2(x + 2)(x - 2)}$
$9x^2(x^2 - 4)$

**6.** $8x^3 - 125 = \underline{(2x - 5)(4x^2 + 10x + 25)}$

**12.** $27x^3 + 64 = \underline{(3x + 4)(9x^2 - 12x + 16)}$

**14.** $-3x^5 - 81x^2 = \underline{-3x^2(x + 3)(x^2 - 3x + 9)}$
$-3x^2(x^3 + 27)$

**15.** $x^6 - 64 = \underline{(x + 2)(x^2 - 2x + 4)(x - 2)(x^2 + 2x + 4)}$
$(x^3 + 8)(x^3 - 8)$

**18.** $6x^3 - 9x^2 + 4x - 6 = \underline{(2x - 3)(3x^2 + 2)}$
$3x^2(2x - 3) + 2(2x - 3)$

**19.** $x^3 + 2x^2 - 9x - 18 = \underline{(x + 2)(x + 3)(x - 3)}$
$x^2(x + 2) - 9(x + 2) = (x + 2)(x^2 - 9)$

**22.** $9x^2 + 30x + 25 = \underline{(3x + 5)^2}$
$(3x + 5)(3x + 5)$

**26.** $3x^4 - 7x^2 - 6 = \underline{(3x^2 + 2)(x^2 - 3)}$

**27.** $4x^4 - 37x^2 + 9 = \underline{(2x + 1)(2x - 1)(x + 3)(x - 3)}$
$(4x^2 - 1)(x^2 - 9)$