Math 0408 – Intermediate Algebra
Factoring

Factor each of the following completely

1. $2y^3 + 20y^2 + 50y$

2. $9x^2 - 12xy + 4y^2$

3. $8 - 14x^n - 15x^{2n}$

4. $x^{2n+1} + 2x^{n+1} - 15x$

5. $4x^4 - 8x^2 + 3$

6. $3x^4 + 10x^2 - 25$

Solutions:

1. $2y^3 + 20y^2 + 50y$

$2y(y+5)(y+5)$

2. $9x^2 - 12xy + 4y^2$

$(3x-2y)(3x-2y)$

3. $8 - 14x^n - 15x^{2n}$

$(4+3x^n)(2-5x^n)$

4. $x^{2n+1} + 2x^{n+1} - 15x$

$x(x^n - 3)(x^n + 5)$

5. $4x^4 - 8x^2 + 3$

$(2x^2 - 3)(2x^2 - 1)$

6. $3x^4 + 10x^2 - 25$

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