New Jersey City University
Intermediate Algebra
Peer Led Team Learning Workshop 5B
Factoring II (Basic Skill Factoring Problems)

1. **Section 5.6 – Factoring Binomials** (**Case 1**: $a^2 - b^2 = (a+b)(a-b)$, the difference of two perfect squares).

   Factor completely: $169x^6y^4z^2 - 49a^4$

2. **Section 5.6 – Factoring Binomials** (**Case 2**: $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$, $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$, (the sum / difference of two perfect cubes).

   Factor completely: $64x^3y^9 - a^3b^6$

3. **Section 5.7 – Mixed problems: (In general, use the common factor method before any method.)**

   Factor completely:

(i) $4x^4y - 24x^3y + 32x^2y$ (ii) $6y^2z + 30z + 12xy^2 + 60x - 18y^2 - 90$

(iii) $18x^4y^2 - 2y^6$ (iv) $54x^4 + 2xy^6$

(v) $18x^4y + 21x^2y - 15y$ (vi) $32x^3z + 24x^2z + 18xz$

4. **Section 5.8 – Solving equations by using factoring method**

(i) $100x^7 - 4x^5 = 0$ (ii) $10x^5 - 18x^4 - 4x^3 = 0$