Unit: Prerequisite Review Date: _____
Topic: Factoring Completely
Objective: SWBAT factor a polynomial expression completely by using the appropriate factoring method(s).

Warm Up #7:

1) Simplify: $\frac{3^{-4}m^{-1}n^{-3}}{9^{-2}mn^{-3}}$

2) Factor: $3x^3 + x^2 + 15x + 5$

Factoring Completely

To factor an expression completely:

1. Factor out _____.

2. Check to see if expression can be factored using a special product like

   _____.

3. Factor polynomial by using _____.

Examples: Factor each of the following completely.

a) $7y^2 + 15y - 2y^3$

b) $2t^3 - 16$

Practice Problems: Factor each of the following expressions completely.

1. $x^3 - 16x$

2. $12x^2 - 48$

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

4. $39x + 18 + 15x^2$

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

6. $2(b-1)^2 - 98$

7. $5x^3 + 40$

8. $6x^5 - 6x^2$

9. $x^3 - 121x$

10. $7x^2 - 63$

11. $10x^2 - 2x - 6x^3$

12. $30x + 3 + 27x^2$

13. $x^4 + 5x^3 + 2x^2 + 10x$

14. $3(x + 5)^2 - 48$

15. $2x^3 + 128$

16. $3x^4 - 81x$