Nickname: _____ No. ____ M3/6 Date: _____

Worksheet 2.3 Factoring Polynomials: Using Special Product Method

Complete the perfect square trinomials. $a^2 + 2ab + b^2 = (a + b)^2$ $a^2 - 2ab + b^2 = (a - b)^2$

1. $9x^4 + \_\_x^2 + 16$

2. $x^8 + 20x^4 + \_\_$

3. $\_\_x^6 - 24x^3 + 9$

4. $x^4 + 6x^2 + \_\_$

Choose the correct factor in each polynomial. *Drag and drop it on the blanks.*

$a^2 + 2ab + b^2 = (a + b)^2$
$a^2 - 2ab + b^2 = (a - b)^2$

5. $9x^4 - 12x^2 + 4 =$ _____

6. $25x^6 - 60x^3 + 36 =$ _____

$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

7. $27x^9 + 64 =$ _____

8. $1 - 8x^3 =$ _____

$a^2 - b^2 = (a - b)(a + b)$

9. $9x^8 - 100 =$ _____

10. $4x^4 - 64 =$ _____

Possible Answers for #'s 5 - 10

$(1 - 2x)(1 + 2x + 4x^2)$

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

$(3x^4 - 10)(3x^4 + 10)$

$(3x^3 + 4)(9x^6 - 12x^3 + 16)$

$(2x^2 - 8)(2x^2 + 8)$

$(5x^3 - 6)^2$