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. $1 - 8x^3 = _____$

$$\boldsymbol{a^2 - b^2 = (a-b)(a+b)}$$

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

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

Possible Answers for #'s 5 - 10

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

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

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

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

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

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

LIVEWORKSHEETS