Name: _____ Date: _____

BLM 5–8

Section 5.4 Extra Practice

1. Determine each product.

a) $(x + 14)(x - 14)$

b) $(2a - 7)(2a + 7)$

c) $(11x + 1)(11x - 1)$

d) $(5y - 9)(5y + 9)$

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

2. What is each product?

a) $(y + 10)^2$

b) $(8 - m)^2$

c) $(2a - 5k)^2$

d) $4(3x - y)^2$

e) $(x^2 + 5)^2$

3. Determine the missing values.

a) $4p^2 - 25 = (2p)^2 - (\square)^2$

b) $16x^2 - 9 = (\square)^2 - (\square)^2$

c) $y^2 - 144 = (y - \square)(y + \square)$

d) $9n^2 - 1 = (3n + \square)(3n - \square)$

e) $x^4 - 49 = (x^2 - 7)(\square)$

4. What are the missing values?

a) $x^2 + 10x + 25 = (x + \square)^2$

b) $225 + 30p + p^2 = (\square + p)^2$

c) $y^2 - 8y + \square = (y - 4)^2$

d) $x^2 + \square + 121 = (x - 11)^2$

e) $\square - 20w + w^2 = (10 - w)^2$

5. Factor each binomial, if possible.

a) $x^2 - 144$

b) $a^2 - 9b^2$

c) $25x^2 - y^2$

d) $h^2 + 64$

e) $36 - a^2b^2$

6. Factor each trinomial, if possible.

a) $x^2 + 14x + 49$

b) $y^2 - 40y + 400$

c) $36 + 12a + a^2$

d) $64a^2 - 48ab + 9b^2$

e) $16x^2 - 56xy + 49y^2$

7. Factor completely.

a) $16x^2 - 4y^2$

b) $9x^3 - 36x$

c) $27a^4 - 147$

d) $100ab^2 - 25a$

e) $x^4 - 81$

8. Factor completely.

a) $y^4 - 10y^2 + 25$

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

c) $100a^2 - 100ab + 25b^2$

d) $2x^3 + 40x^2y + 200xy^2$

e) $y^4 + 18y^2 + 81$

9. Factor completely.

a) $(x + 4)^2 - 25$

b) $(a - 5)^2 - 36$

c) $100 - (p + 8)^2$

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

e) $x^2 - (y + z)^2$

10. Identify two values of n so that each polynomial will be a perfect square trinomial. Then, factor.

a) $x^2 + nx + 64$

b) $y + ny + 144$

c) $4a^2 + na + 25$

d) $9x^2 + nxy + 16y^2$

e) $25x^2 + nx + 121$