Name_____

Factoring Polynomials

Factor each completely.

1) $2au + av^2 - 8xu - 4xv^2$

2) $48uv - 168u - 42nv + 147n$

3) $42xpy - 147xp - 112kpy + 392kp$

4) $14mn - 20n + 35m - 8n^2$

5) $24xy + 35y + 56x + 15y^2$

6) $16a^2 + 8a + 1$

7) $36p^2 + 24p + 4$

8) $81 - 126x + 49x^2$

9) $16n^2 + 72n + 81$

10) $14m^4 + 14m^2$

11) $9m^4 - n^4$

12) $80x^4 - 45y^4$

13) $x^4 + 9y^4$

14) $25u^4 - 16v^4$

Name_____

Factoring Polynomials

Factor each completely.

1) $2au + av^2 - 8xu - 4xv^2$

$$(a - 4x)(2u + v^2)$$

2) $48uv - 168u - 42nv + 147n$

$$3(8u - 7n)(2v - 7)$$

3) $42xpy - 147xp - 112kpy + 392kp$

$$7p(3x - 8k)(2y - 7)$$

4) $14mn - 20n + 35m - 8n^2$

$$(7m - 4n)(2n + 5)$$

5) $24xy + 35y + 56x + 15y^2$

$$(8x + 5y)(3y + 7)$$

6) $16a^2 + 8a + 1$

$$(4a + 1)^2$$

7) $36p^2 + 24p + 4$

$$4(3p + 1)^2$$

8) $81 - 126x + 49x^2$

$$(9 - 7x)^2$$

9) $16n^2 + 72n + 81$

$$(4n + 9)^2$$

10) $14m^4 + 14m^2$

$$14m^2(m^2 + 1)$$

11) $9m^4 - n^4$

$$(3m^2 + n^2)(3m^2 - n^2)$$

12) $80x^4 - 45y^4$

$$5(4x^2 + 3y^2)(4x^2 - 3y^2)$$

13) $x^4 + 9y^4$

Not factorable

14) $25u^4 - 16v^4$

$$(5u^2 + 4v^2)(5u^2 - 4v^2)$$