Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 12B.2 – More Factoring Polynomials by GCF

#1-16, Factor by the GCF method. If there is no GCF, write "prime."

1. $10y + 20$

$= 10(y+2)$

2. $12j^2 - 18k$

$= 6(2j^2 - 3k)$

3. $2a^5 + a^7$

$= a^5(2 + a^2)$

4. $4p^{10}q^7r^2 - 15p^8q^7r$

$= p^8q^7r(4p^2r - 15)$

5. $30x^3 + 6x^4$

$= 6x^3(5 + x)$

6. $8n - 28n^3k$

$= 4n(2 - 7n^2k)$

7. $4ab^8 - 20a^4b^8$

$= 4ab^8(1 - 5a^3)$

8. $10k^3 + 20k^2 - 25k$

$= 5k(2k^2 + 4k - 5)$

9. $12x^3 - 27y^2 - 25z^2$

no GCF → prime

10. $14q^4 - 42q^9$

$= 14q^4(1 - 3q^5)$

11. $36m^7n^{11} - 27m^5n^5 + 9m^4n^2$

$= 9m^4n^2(4m^3n^9 - 3mn^3 + 1)$

12. $64a^8b^3c^6 - 40a^6b^7c^2 + 48b^{10}c^4$

$= 8b^3c^2(8a^8c^4 - 5a^6b^4 + 6b^7c^2)$

13. $25e^2 - 30e + 15$

$= 5(5e^2 - 6e + 3)$

14. $14w^2z^4 - 20w^3y^6 + 18y^8z^3$

$= 2(7w^2z^4 - 10w^3y^6 + 9y^8z^3)$

15. $x^{a+1} + x^a$

$= x^a(x + 1)$

16. $3w^{x+5} + 9w^{2x+3}$

$= 3w^{x+5}(1 + 3w^{x-2})$