Honors Math II Name_____

Unit 5 day 4 : Factoring Period_____Date_____

Factor the following polynomials using synthetic/long division.

1. $x^3 - 2x^2 - 11x + 12$ if (x – 1) is one of the factors.

2. $x^3 + x^2 - 4x - 4$ if (x + 2) is one of the factors.

3. $15x^3 + 14x^2 - 3x - 2$ if (x + 1) is one of the factors.

4. $3x^3 + 13x^2 - 52x + 28$ if (x + 7) is one of the factors.

5. $8x^3 - 2x^2 - 41x - 10$ if (x + 2) is one of the factors.

6. $x^3 - x^2 - 8x + 12$ if (x + 3) is one of the factors.

7. $x^3 - 2x^2 - 7x - 4$ if (x + 1) is one of the factors.

8. $x^4 + 4x^3 - x^2 - 16x - 12$ if $(x^2 - 4)$ is one of the factors.

Factor each completely.

9. $5x^3 + 2x^2 + 10x + 4$

10. $27x^3 + 1$

11. $2x^2 - 2x - 60$

12. $x^3 + 11x^2 + 28x$

13. $4x^2 + 28x$

14. $x^4 + 2x^2 + 1$

15. $4x^2 - 25$

16. $16x^2 - 24x + 9$

17. $12x^3 + 15x^2 + 4x + 5$

18. $54 + 250x^3$

19. $7x^2 + 15x + 8$

20. $5x^2 - 24x - 5$

21. $9x^2 + 23x - 12$

22. $10x^2 - 7x + 1$

23. $10x^2 + 63x + 18$

24. $8x^2 - 21x - 9$

25. $3x^2 - 22x - 45$

26. $7x^2 - 31x + 30$

27. $3x^3 + 3$

28. $6x^2 + 7x - 24$

29. $9x^2 + 21x - 14$

30. $4x^2 - 29x - 24$