Name:_____**Date:**_____**Per:**_____

Final Exam Review
Polynomials and Factoring

Add, subtract or multiply.

1. $(9x + 6x^3 - 8x^2) + (-5x^3 + 6x)$

2. $(2s^3 + 8) - (-3s^3 + 7s - 5)$

3. $(-3d + 10)(2d - 1)$

4. $(2s + 5)(s^2 + 3s - 1)$

5. $(3x + 8y)^2$

6. $(3m - 7n)^2$

Factor each polynomial by finding the GCF.

7. $2x^2 - 4x$

8. $-4y + 16y^2$

9. $3xy + 8xy^2$

Factor each polynomial completely.

10. $x^2 - 7x + 12$

11. $x^2 - 2x - 24$

12. $-x^2 - 9x - 18$

13. $3x^2 + x - 2$

14. $5x^2 - 6x + 1$

15. $3x^2 + 13x + 4$

16. $x^2 - 25$

17. $4x^2 - 169$

18. $2x^2 - 50$

19. $4x^2 + 20x + 25$

20. $3x^2 - 24x + 48$

21. $7a^3b^3 - 63ab^3$

22. $-4s^3t^3 + 24s^2t^2 - 36st$

23. $6g^3 - 24g^2 + 24g$

24. $3n^5 - 48n^3$

Solve each polynomial equation.

25. $(3x-1)(x+2)=0$

26. $x(3x-7)(4x-1)=0$

27. $x(2x-5)=0$

28. $7x^2+21x=0$

29. $8x^2-16x=0$

30. $2x^2=-7x$

31. $x^2-7x+12=0$

32. $x^2-17x+60=0$

33. $x^2+8x=-12$

34. $3x^2+x-2=0$

35. $2x^2-3x-35=0$

36. $4x^2+11x=3$