Name:_____ Date:_____
PC: Review Sheet for Exam 1 Quarter 1 Ms. Loughran

This review sheet is not comprehensive. Please look over your notes and worksheets to prepare fully spending time specifically on questions that you struggled with. **PLEASE DO ALL WORK ON SEPARATE LINED PAPER.**

In 1-9, solve each inequality and express the solution set in (a) interval notation, and (b) set builder notation.

1. $x^2 - 9x + 14 < 0$

2. $4 - 3x \le -(1 + 8x)$

3. $\frac{x+4}{5-x} \le 0$

4. $\frac{3x}{2} \le \frac{3x-6}{4}$

5. $x^2 + 4x < 0$

6. $1 + \frac{2}{x+1} \le \frac{2}{x}$

7. $\frac{4x}{2x+3} > 2$

8. $\frac{x+1}{x} < 3$

9. $\frac{x^2 - 2x - 8}{(x-1)^2} < 0$

In 10 - 25, factor each completely if possible.

10. $56x^3 - 28x^2 + 7x$

11. $x^3 - 3x^2 - 4x + 12$

12. $3x^2 - 75$

13. $ax^2 + 15 - 5ax - 3x$

14. $6x^2 - 11x - 10$

15. $a^8 - b^8$

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

17. $x^4 - x^2 - 12$

18. $16x^2y^2 - 25$

19. $x + 1 + y + xy$

20. $x^5 + 27x^2$

21. $8x^3 - 125y^3$

22. $(x^2 - 3x)^2 - 38(x^2 - 3x) - 80$

23. $x^6 + 8$

24. $x^2(x^2 - 1) - 9(x^2 - 1)$

25. $4(x^2 - 1)^2 - 13(x^2 - 1) - 12$

26. $6 - 7t^2 + t^4$

27. $7x^2 + 10xy + 3y^2$

28. $x^9 - x^6 - x^3 + 1$

29. $8a^2 - 33ab + 4b^2$