**UNIT 2 – HW 1 NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**I. Solve each inequality. Graph on a number line and write your answer in interval notation.**

1. $6+a\leq 12$ 2. $4r-6-9r-5\geq 29$ 3. $5\left(4a-3\right)<2(10a-1)$

4. $\frac{q}{2}-5>-6+\frac{2q}{3}$ 5. $-5x+23<23$ 6. $5p-6-3p\geq -16$

7. $\frac{2}{3}f-4\leq 5+\frac{1}{6}f$ 8. $4g\left(5+3g\right)-2\leq 6g\left(2g+3\right)+1$

9. $\frac{5}{4}(8m-24)<\frac{4}{3}(9m-27)$ 10. $3a+8<14 OR 5-6a\leq 17$

11. $12x+8>7x-7 AND 2x+8\geq 4x-6$ 12. $15h-9<9-6h AND 3h+8<5h-12$

13. $-3\leq 2+5t\leq 27$ 14. $6-7b\leq -15 OR 5b+3\leq 13$

**II. Without graphing, write each inequality in interval notation.**

15. $-4<x\leq 7$ 16. $x\geq 8$ 17. $9>x$ 18. $-7\geq x$

**III. Without graphing, write each interval as an inequality.**

19. $(-5, 8]$ 20. $(-\infty , 5]$ 21. $(25, \infty )$ 22. $[3, 11)$

**IV. Write an inequality AND interval notation given each graph.**

23. 24.

25. 26.

27. 28.