Name: _____ Class: _____ Date: _____ ID: A

Lesson #10 B: Solving and Graphing One and Two Variable Inequalities and Compound Inequalities (Reference: Lessons #45, #50, #66, #70, #73, #77, #81, #82, & #97 in book)

Problem

1. **For each of the following inequalities, solve the inequality for the given variable and then graph the inequality, and give me the solution set in inteval notation.**

   1. $8(1+5x)+5>13+5x$

2. $3(4x-2)+5x \le 30-x$

3. $4(8-3t) \ge 32-8(t+2)$

4. $3x+4(2-2x)>3(5x+1)-15$

5. $-5(1-5x)+5(-8x-2)<-4x-8x$

6. **For each of the following compound inequalities, please solve the inequality, graph the inequality, and give me the solution set for the inequality in interval notation.**

   6. $-9 \le 3x-4+2x \le 11$

7. $-18 \le 2(2x-1)-4+2x<36$

8. $-2(4-x) \ge 10$ or $-12 \le -6x-18$

9. $3x-4-6x+8<10$ or $31<-2(x+1)-4x+9$

10. $-4<3(2x-2)-4x+10 \le 10$

11. **For each of the following inequalities, please graph the inequalities and shade the solution region of the inequality on the coordinate plane.**

    11. $y \le 2x-6$

12. $y \ge -\frac{3}{4}x-3$

13. $16x+4y<8$

14. $3x-y<-4$

15. $5-2y \le 3x$

16. **For the following problem, please create the inequality from the word problem and then graph the inequality and shade the solution region on the coordinate plane.**

    16. Samuel will attend a school carnival and she plans to spend no more than $12. Each game costs $2 and each item of food costs $3. Write and graph an inequality to describe the total cost of the carnival.