**Inequalities Study Guide Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Identify the letter of the choice that best completes the statement or answer the question.**

**1.** Write an inequality for the situation: ***There are more than 19 cats in the shelter.* 1.**

**2.** Write an inequality for the situation: ***At least 50 pens are in the pencil-pouch.* 2.**

**3.** What is the solution to the inequality $-2x– 40 > 8$? **3.**

**4.** Which set of numbers is included in the solution set of 7$ – 2x<-3$? **4.**

 a. {2.5,8,15} b. {−8,0,1.5} c. {15,8,5.5} d. {0,2.5,8}

**Write the letters on the line of the numbers that are solutions to the inequalities.**

**5.**$ 5y + 5 < 20$ a. 0 b. 2 c. 5 **5.**

**6.**$ 3p + 3 >-9$ a. 0 b. -2 c. -4 **6.**

**Solve each inequality below and graph the solution set on the number line. Write your answer in the blank provided at the right.**

**7.** $-7v> 28$ **7.**

**8.** $3.5y + 5.7 \leq 18.2$ **8.**

**9.** $\frac{z}{5}-14 >-16$ **9.**

**10.** $-9w + 18 \geq -60$ **10.**

**11.** $5(2x- 2) – 8x<-20$ **11.**

**12.** 6$y + 3 – 5y\leq 8$ **12.**

**13.** $\frac{-8w- 10}{4}\geq 8$ **13.**

**14.** $24> 3(w + 7)$ **14.**

**Write an inequality for each graph in the blank at the right.** 

**18. 19. 18.**

 **19.**

**20. Write an inequality the models the verbal expression and solve. Show your work.**

One-half of a number increased by twenty is at most forty. Find the solution set.

**Inequality:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **20.**

**Work:**

**For each problem below (1) Define a variable, (2) Write an inequality that models the situation, (3) Solve the inequality showing all work, and (4) Answer the question asked in the problem.**

**21**. A local pizzeria offered a special of $8.50 per pizza. A group of students spent less than $65. They purchased three pitchers of soda for a total of $10.99 and bought some pizzas. What is the maximum number of pizzas the group purchased?

**Variable:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Inequality:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Solution:** \_\_\_\_\_\_\_\_\_\_\_ **Maximum number of pizzas:** \_\_\_\_\_\_\_\_\_\_\_\_

**22**. The eighth grade wants to have their Promotion Ceremony at Time Warner Arena downtown. To rent the arena it costs $2500 for the first two hours and $550 for each additional hour. The students fundraised $8530. What is the maximum amount of time the students can rent the Arena?

**Variable:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Inequality:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Solution:** \_\_\_\_\_\_\_\_\_\_\_ **Maximum amount of time:** \_\_\_\_\_\_\_\_\_\_\_\_

**Bonus:** Solve. $\frac{-3(4x-7)}{-2}> 5x – 2.2 + 17x$