NAME _____ DATE _____ PERIOD _____

Extra Practice
Solving Multi-Step Inequalities

Example 1

1. HOMEWORK For three consecutive homework assignments, each assignment had one more question than the previous assignment. The total number of questions on the three assignments is greater than 51.

a. Write an inequality to represent this situation, where q is the number of questions on the first assignment.

b. Solve the inequality.

c. What is the minimum number of questions that could have been on the third assignment? Explain your reasoning.

Translate each sentence into an inequality. Then solve the inequality and graph the solution on a number line.

2. Six times a number plus seventeen is less than negative thirteen.

3. Forty-six is less than or equal to the difference of ten times a number and four.

4. Eight is less than the sum of three-fourths times a number and two.

NAME _____ DATE _____ PERIOD _____

Solve each inequality. Graph the solution on a number line.

5. $3a + 9 > 5(a - 3)$

6. $-5(2 - b) \leq 7(b + 2)$

7. $4(c - 5) \geq 4(c + 1) - 24$

8. $5d + 2(d - 3) > 36$

9. $3 + t \geq 3(4 - t) - 21$

10. $9f - 2(3f + 5) \leq 8$