Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_ Score: \_\_\_\_\_\_\_\_\_\_\_

**Linear Inequalities Review Worksheet**

***Learning Target #2 “I can create, solve, and graph inequalities in one variable.”***

Solve the following inequalities and represent the solution set on a number line.

1. $x-7<-2$



2. $3m+2\leq 8m-8$



3. $\frac{2}{3}p-2>-4$



4. $2-3\left(x-1\right)\geq x-7$



Really think about what these inequalities are saying. Then identify the solution set.

5. $9k-4+1\leq 2k-3+7k$

6. $3y+1<3y+1$



***Learning Target #2 “I can create, solve, and graph inequalities in one variable.”***

***Learning Target #5 “I can interpret solutions as viable (practical, realistic, usable) or nonviable (not practical, realistic, usable) within context.”***

6. In 1912, Japan gave the United States several thousand flowering cherry trees as a symbol of friendship.  Similarly, the nation of Cameroon plans to give flowering Satta trees to other countries this year.  When asked how to decide which Satta trees make good gifts, Cameroon’s chief arborist explained:

*“We plant Satta trees when they are 6 cm tall, and they grow 9 cm every year.  The trees only flower when they are taller than 150 cm.”*

It is very important that the trees Cameroon gives flower this year!  It would be considered an insult to receive a tree that did not bloom.  Luckily, Cameroon has many groves of Satta trees from which to select its gifts.  How old must the trees be so that they will flower within the year?

a. Write an inequality that represents this situation.  Justify your reasoning.

b. Solve the inequality to determine how old the trees can be so that they flower this year. Is this solution set viable (practical, realistic, usable)?

Later, the arborist added:

*“I almost forgot to tell you! When the trees become very old, they stop flowering. Make sure you choose trees that are no more than 240 cm tall!”*

c. Discuss with your team how you can use this additional information to make sure you choose trees that will flower. Write an additional inequality that will represent this new material.

d. Solve the additional inequality. Is this solution set viable (practical, realistic, usable)?

e. Write the final solution set with both limitations on the age of the trees.

f. Graph the solution set on the number line below.

