

Name: _____

Pd: _____ Date: _____

Flowering Cherry Trees

Problem: 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.”**

- a. Determine the important information. Determine your variables.

- b. Determine the rate that the Satta tree grows. Complete a table to show the relationship between the two variables.

x																				
y																				

- c. Write a mathematical sentence representing the height of the tree as a function of age.

- d. When is appropriate to use an inequality? When is it appropriate to use an equation?

Cameroon’s chief arborist adds: **“The trees only flower when they are taller than 150 cm.”** It is very important that the trees Cameroon gives flower this year! 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?

- e. Determine whether an *inequality or equation* is appropriate for this situation. Explain your reasoning for this choice.

Chapter 9: Inequalities

9-58 How can I use inequalities to solve problems?

- f. Use your original mathematical sentence to determine how old the trees must be so that they flower this year.

- g. Highlight all values in the table that make the inequality true. Explain why these values make the inequality true.

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!”

- h. How can you use this additional information to make sure you choose trees that will flower?

- i. Based on all of the information, graph your inequality on the grid to represent the trees that Cameroon can send. Explain what the graph represents.

