AP Computer Science Name _____
Bridgewalk Lab Revisited

In this problem a person is placed at the center of a 7-meter long bridge. Each step, the person moves 1 meter either forward or backward at random. Rewrite the lab using Java and correcting any bad or inefficient code.

1. Write a program, containing at least 3 functions, that determines how many steps the person will walk before taking a step off the bridge. Have the program average 50 trials and report the average and largest number of steps.

2. Display the position of the person on the bridge at each stage of <u>one</u> bridge walk

   For example,

   Step 0: |---*---|
   Step 1: |--*----|
   Step 2: |-*-----|
   Step 3: |--*----|
   . . .

3. Print a table of bridge length vs. average number of steps taken to get off. Use 50 trials for each bridge length and try odd lengths from 5 to 21 meters long. Be sure your output is formatted appropriately.

   For example,

Length	Average Number of Steps
5	5.6
7	7.2
9	8.0
…	…
21	37.5

What is the relationship between the length of the bridge and the average number of steps taken to get off?