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Destructive Testing Analysis

1. f(n) = 2sqrt(n)
   a) Worst case: O(sqrt(n))
   b) The worst case running time is O(sqrt(n)) because no matter what, the program will divide
   the number of rungs needed to test your program to sqrt(n).
   c) f(n) = sqrt(n) : iterating through the divisions of the ladder
       + sqrt(n) : iterating through a specific division until the device breaks
       = 2sqrt(n)

2.

Ladder Sizes	(Ladder size) - 3	(Ladder size) / 2 - 2	Highest Safe Rung = 2
10	5	3	4
10,000	198	149	4
1,000,000	1998	1499	4
100,000,000	19998	14999	4

3.   a) Yes, the results aligned with our interpretation. Although there was no way to reduce tehe
running time down to O(log(n)), the lower number of drops does indicate the algorithm is netter than
O(n) running time.

      b) N/A