Name:_____   Name: _____

Name:_____   Name: _____

Merge Sort Recursion Tree

1. How many sub-problems are there at any given level (use **L** in your equation)? Note: root is **Level 0**, the second level is **Level 1**, and leaves are at **Level $\log_2(n)$**. For Merge Sort, "sub-problem" refers to a call to the Merge function.

2. How many elements are there for a given sub-problem found in level **L**? Here, elements refers to the numbers in the subarray passed to the Merge function.

3. How much work is performed at a given level?
   Note: we found that the cost of the Merge function was 21m.

4. What is the **total** computational cost of the MergeSort function?