Week 4

Each question is worth $30/8 = 3.75$ marks.

Exercise 1

This question expects the complexity required to construct the data structure and output all nodes. If you specified that you just considered output and not construction, you get the benefit of the doubt.

1. C
2. B

Exercise 2

1. T
2. A

Exercise 3

1. F
2. F
3. F
4. F. An AVL tree maintains the height difference between two children subtrees to be at most 1. If you consider *any two* leaves, the maximal height difference is $O(\log n)$. This is the worst case scenario when every pair of child subtrees differ by 1.