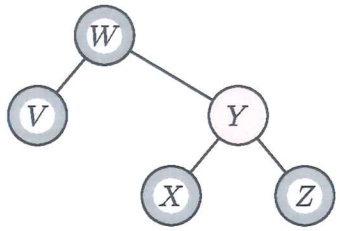
CpSc 2120 — Goddard

Revision 2

(1) State the running times.
For first five, assume implemented using either array or linked list.

	add	delete	find	iterate all
stack	constant	constant	X	X
queue	constant	constant	X	X
set	O(n)	O(n)	O(n)	O(n)
bag	constant	O(n)	O(n)	O(n)
list	O(n)	O(n)	O(n)	O(n)
binary search tree	O(n)	O(n)	O(n)	O(n)
red-black tree	O(log n)	O(log n)	O(log n)	O(n)

(2) Consider this tree:



(a) Is this a proper binary tree?

YES

(b) Give the results of the three traversals.

PRE: W V Y X Z

POST: V X Z Y W

IN: V W X Y Z

(c) Assuming node with Y is red and the other nodes are black, is this a red-black tree?

valid

YES