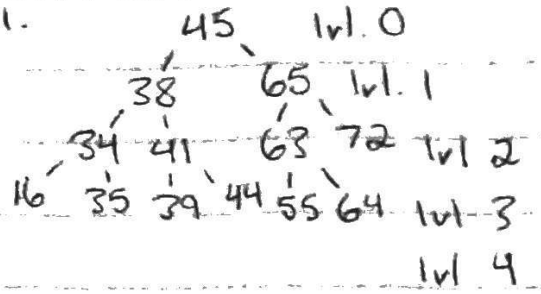
Preorder root, left sub, right sub
Inorder left sub, root, right sub
Postorder left sub right sub, root

Tree Lab

1.



a. Inorder traversal

16 34 35 38 39 41 44 45 55 63 64 65 72

b. Preorder traversal

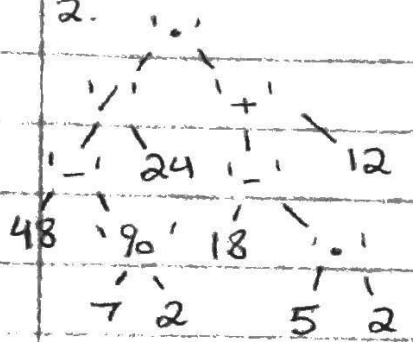
45 38 34 16 35 41 39 44 65 63 55 64 72

c. Postorder traversal

16 35 34 39 44 41 38 55 64 63 72 65 45

d. Height of the tree is 4. Level 2 nodes include 34, 41, 63, and 72.

2.



$= (((48-(7\%2))/24)\cdot((18-(5\cdot2))+12)$

$= (((48-1)/24)\cdot((18-10)+12)$

$= (47/24)\cdot(20) =$

a. Inorder traversal

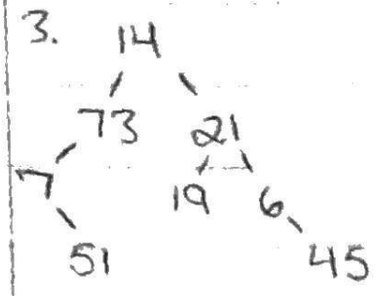
(((48-(7%2))/24)·(((18-(5·2)+12))

b. Postorder traversal

48 7 2 % - 24 / 18 5 2 · - 12 + ·

c. Evaluate using integer division: 20

d. Evaluate using float division: 39.1667

3. 

a. Null.

b. Show contents of array, given the illustrated tree.

Preorder

[0] 14
[1] 73
[2] 7
[3] null
[4] ~~null~~ 51
[5] ~~null~~ null
[6] null
[7] null
[8] 21
[9] 19
[10] null
[11] null
[12] 6
[13] null
[14] 45

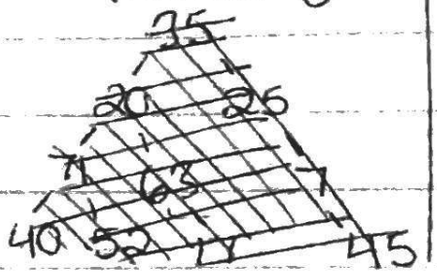
Postorder

[0] null
[1] 51
[2] 7
[3] null
[4] null
[5] null
[6] 73
[7] null
[8] null
[9] 19
[10] null
[11] 45
[12] 6
[13] 21
[14] 14

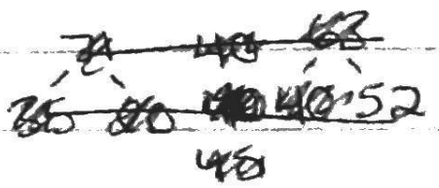
4 Create a binary tree given the array

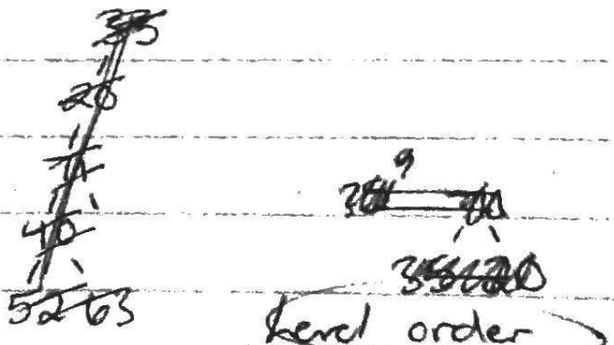
[0] 35
[1] 20
[2] 71
[3] 40
[4] 52
[5] 63
[6] null
[7] 17
[8] 25
[9] null
[10] 7
[11] null
[12] 45

~~Preorder~~



~~Postorder~~





Level order

~~Preorder~~

35
20 71
40 52 63 null
17 25 n. 7 n. 45