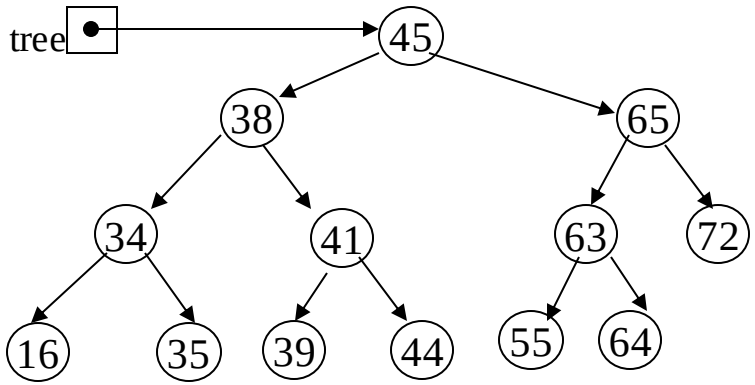
1. Given the following binary tree:



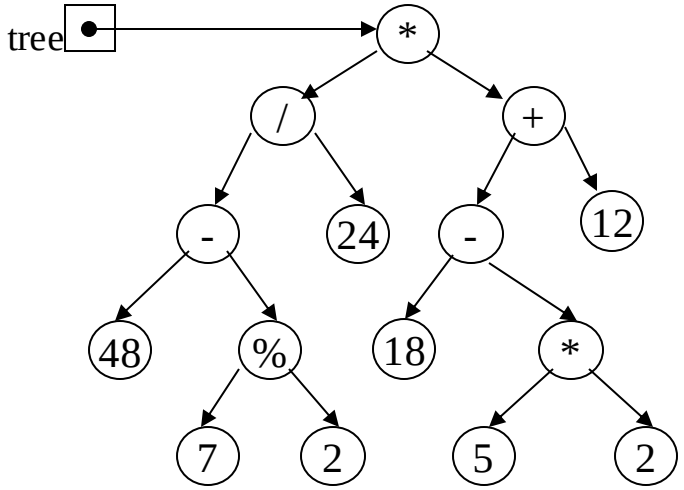
(a) What is the inorder traversal of the tree?
- 16, 34, 35, 38, 39,41,44,45,55,63,64,65,72

(b) What is the preorder traversal of the tree?
- 45,38, 34, 16,35,41,39,44,65,63,55,64,72

(c) What is the postorder traversal of the tree?
- 16,35,34,39,44,41,38,55,64,63,72,65,45

(d) What is the height of the tree? What nodes are on level 2?
- 3 , 34 ,41,63,72

2. Given the following binary expression tree:



(a) What is the inorder traversal of the tree?
48 – 7 % 2 /24 *18 -5 *2 +12

(b) What is the postorder traversal of the tree?
48 7 2 % - 24 / 18 5 2 * - 12 + *

(c) What does it evaluate to if using integer division?
20

(d) What does it evaluate to if using float division?

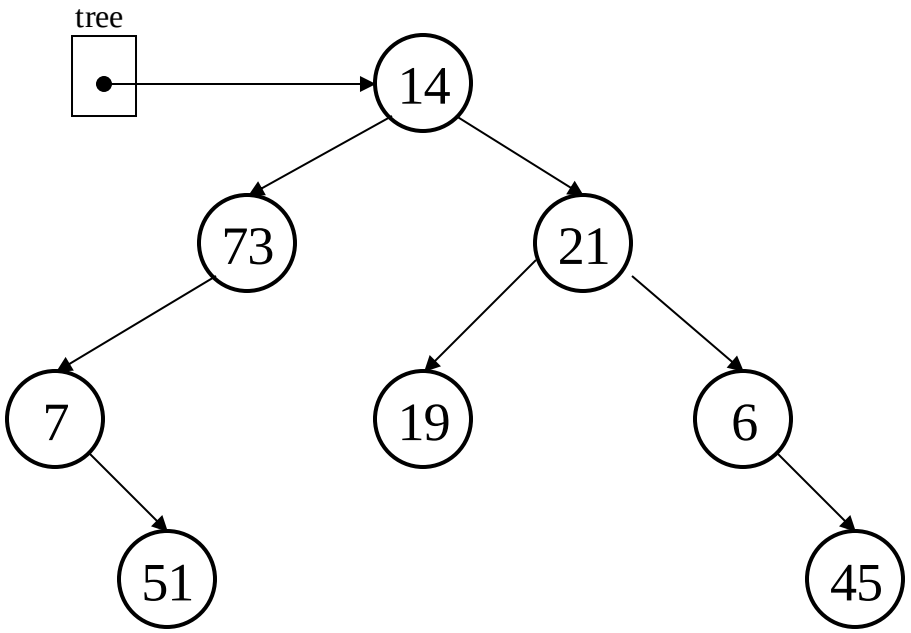
39.17

3. The elements in a binary tree area to be stored in an array. Each element is a nonnegative int value.

a. What value can you use as a dummy value, if the binary tree is not complete? _null_

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

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



4. Given the array pictured below, draw the binary tree that can be created from its elements.

[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