

Lab 3 problem 3 : AVL tree

40, 30, 20, 60, 50, 80, 15, 28, 25

Insert HQ: °HQ

Insert 30: '40

° 30' ✓ unbalanced

Insert 10: 40

'30' Single right rotation :
(LLL rotation)

${}^{\circ}30$ / ${}^{\circ}20$ ${}^{\circ}40$ Balanced

Insert Go:

1
30
20 / \ 40
Balanced
60°

Insert 50:

30
 / /
 20 HD²
 |
 60
 |
 50

unbalanced
 Right Left
 CRL R

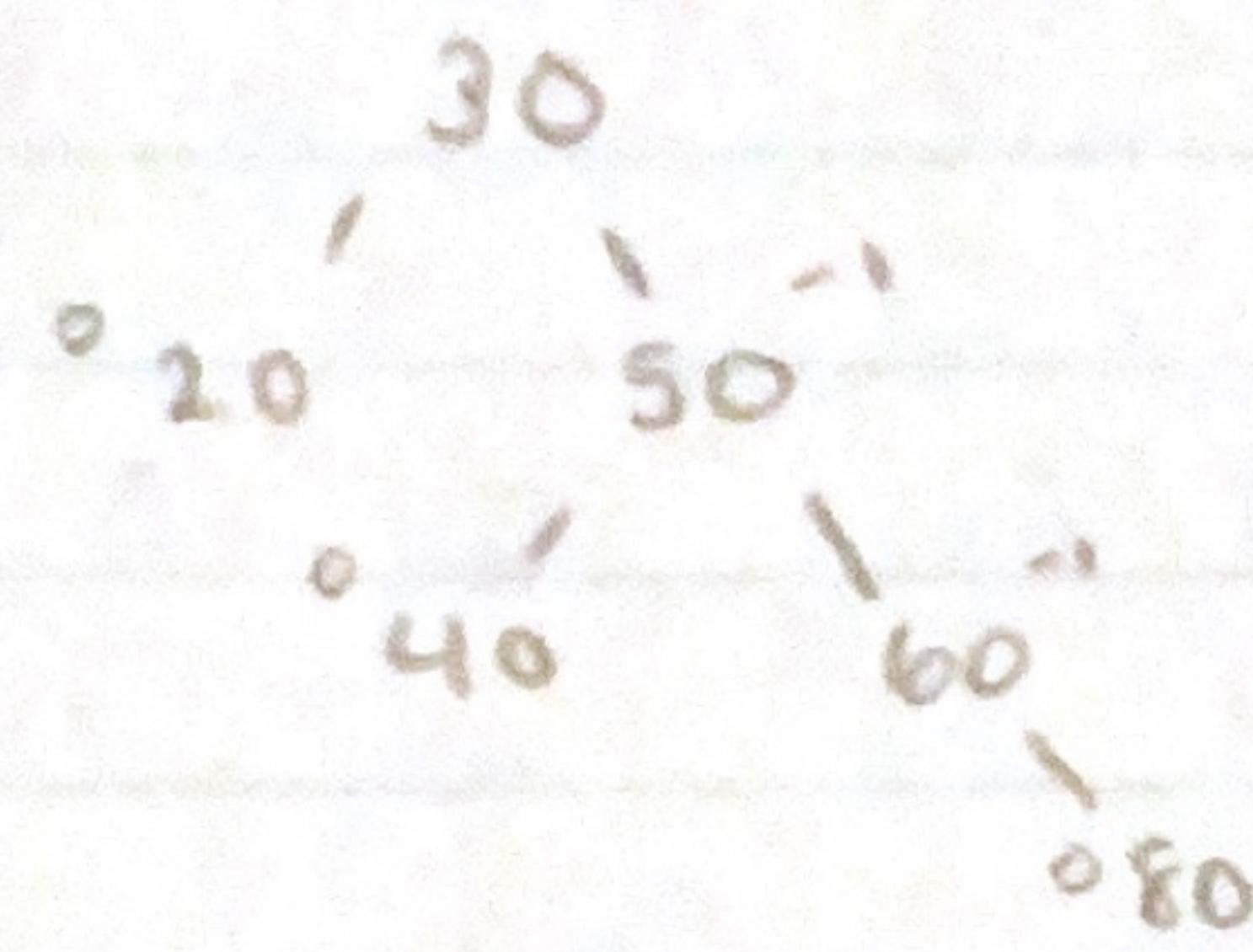
(1) Right rotation

20' 30' 40' 50' 60'

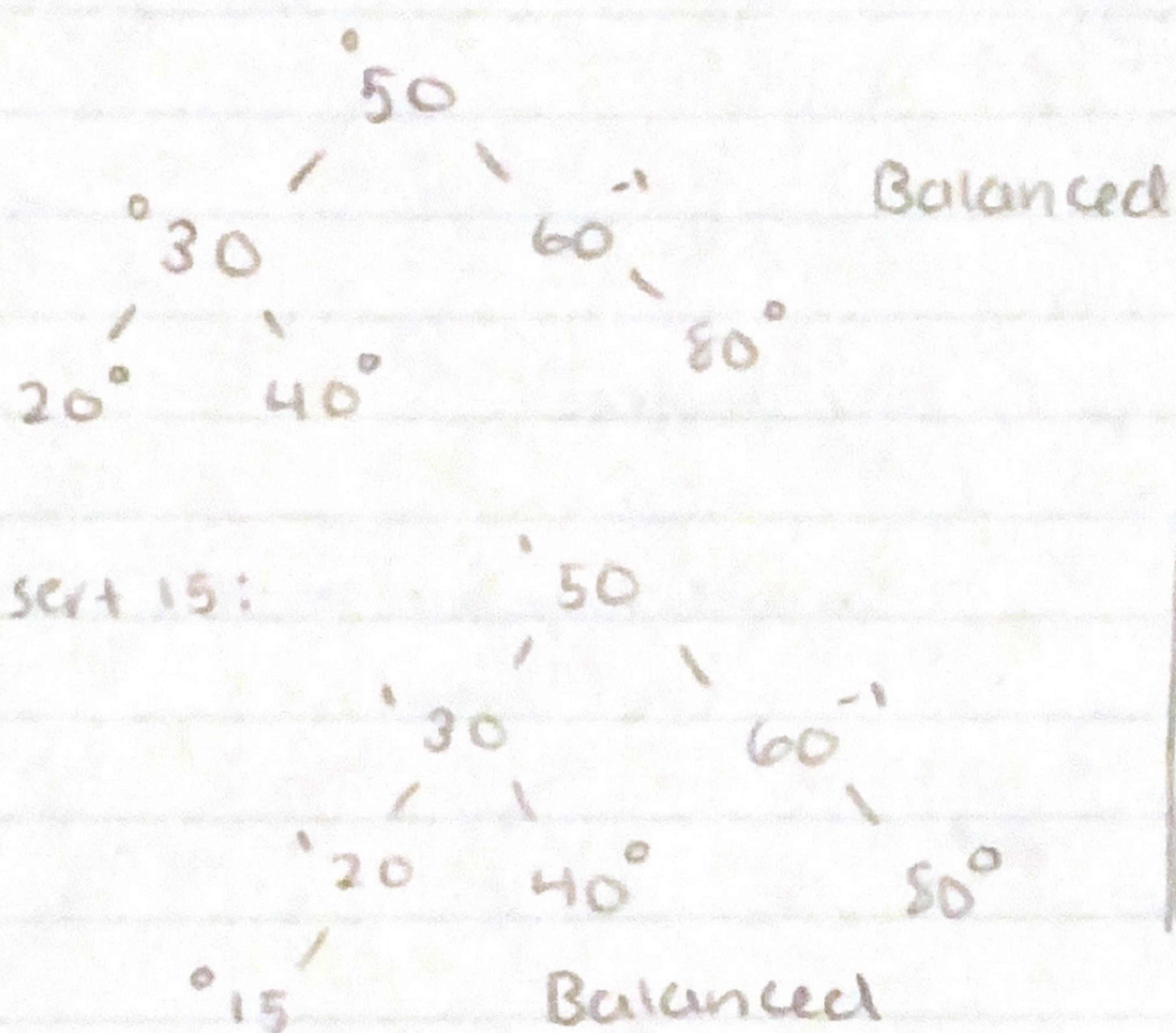
(2) left rotation $^{-1}$ 30

athan 30
° 20' 050
° 40' 060

Insert 80: unbalanced

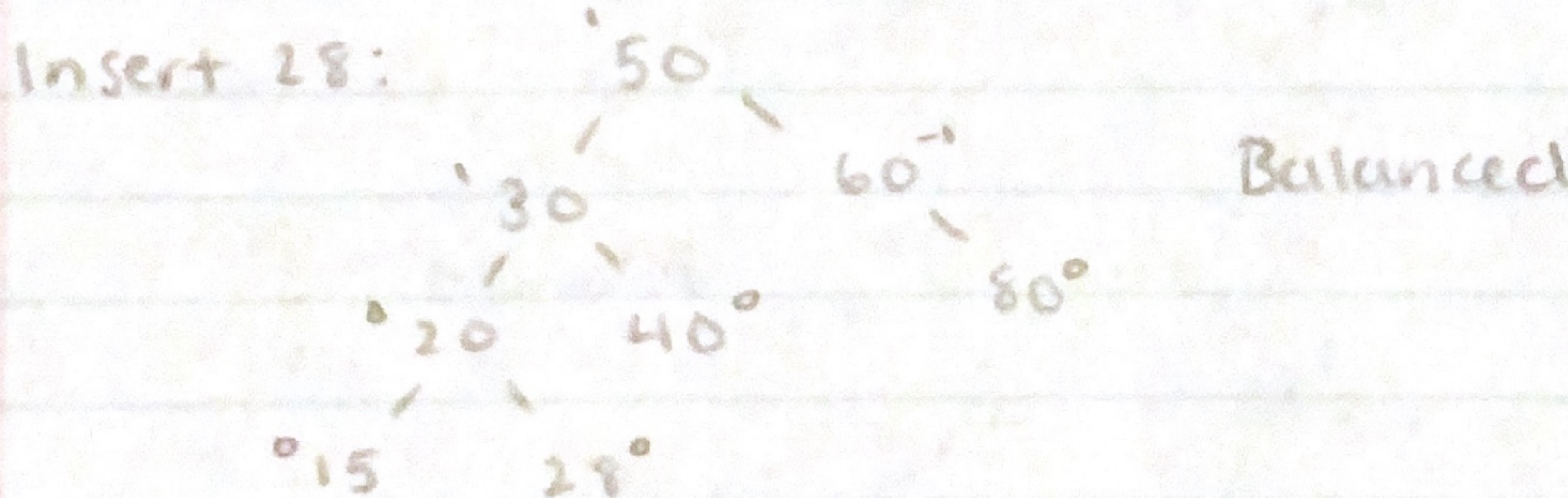
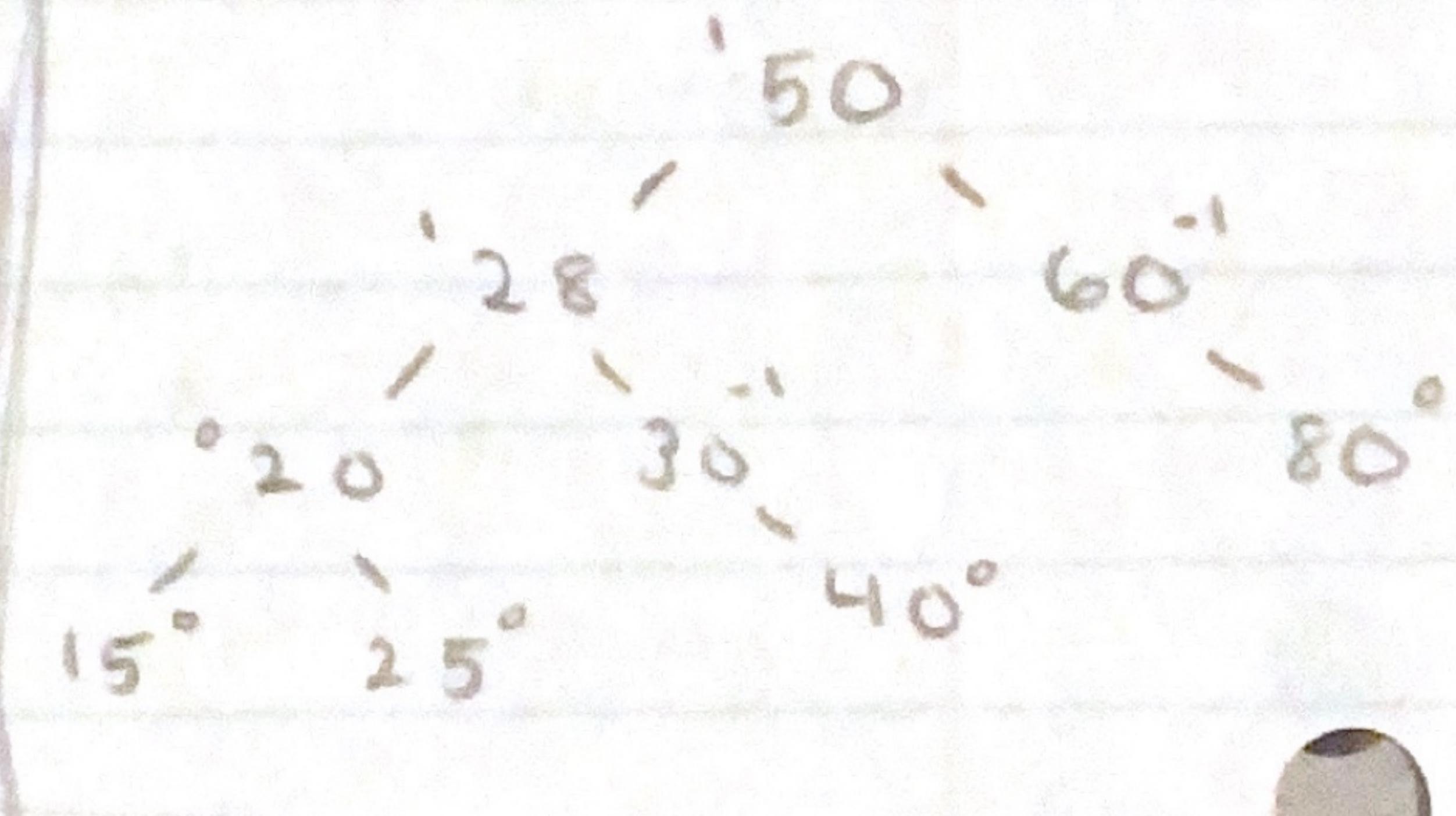


Single rotation left:
(RR rotation)

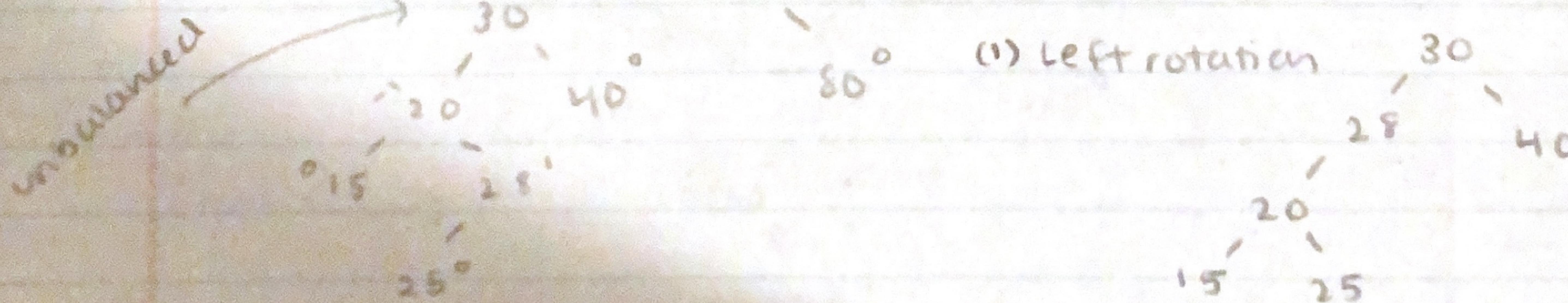


Balanced

FINAL TREE:

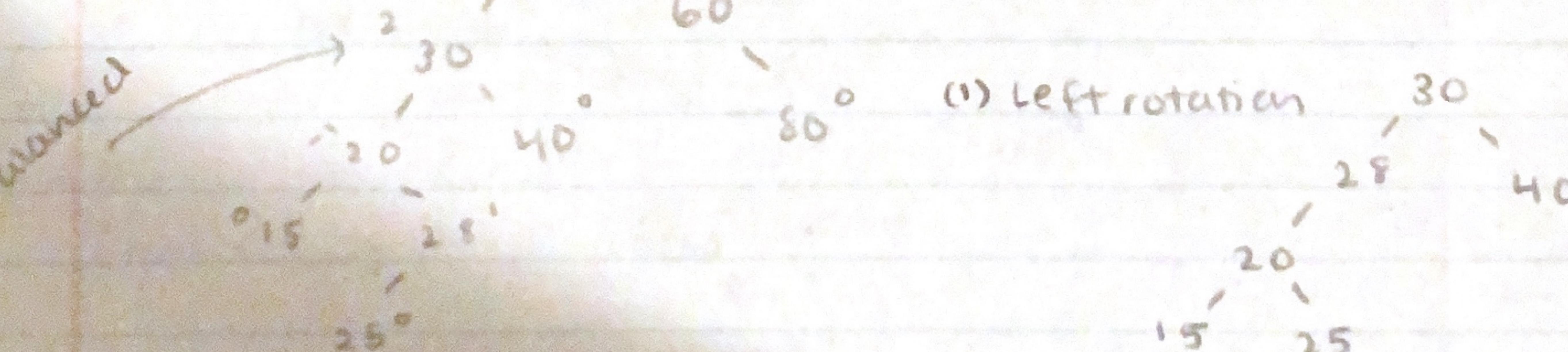


Insert 28: balanced

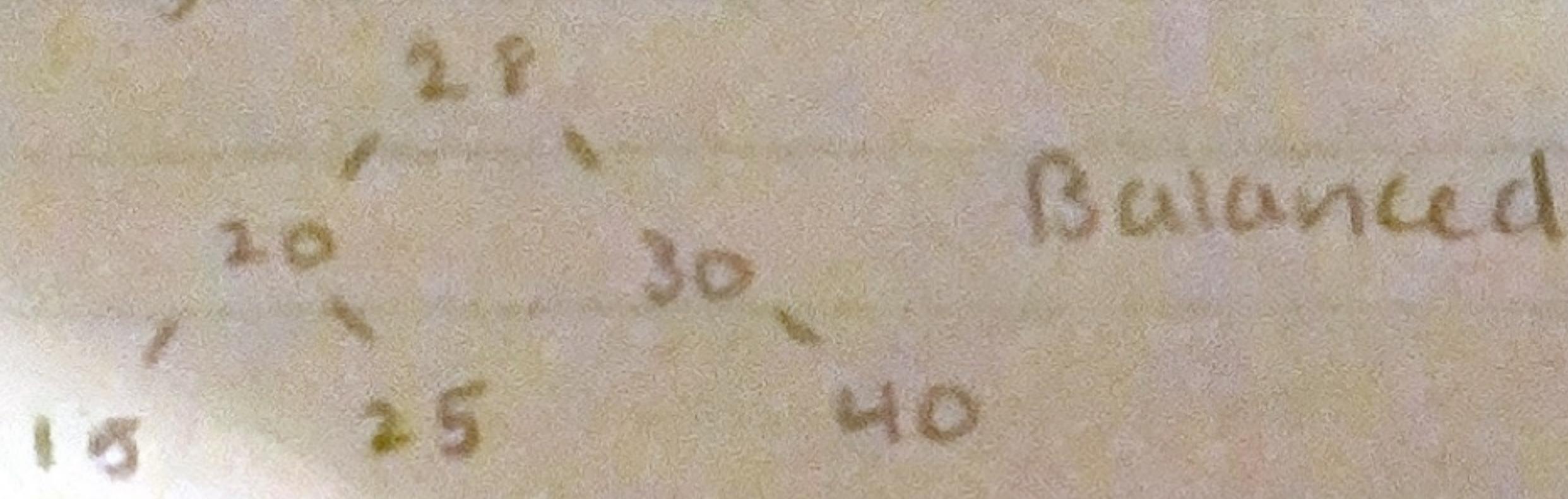


Double right rotation:

Insert 25: (LR rotation)



(2) Right rotation:



Balanced