

**HW 2. GRAPH THEORY. WTR 2016. MONTGOMERY. DUE IN  
CLASS WED JAN 20.**

Do the following exercises from ‘CountingTreesinJanuary’:

0.5 a

NOTE: Please do 0.5 a on a separate piece of paper with your name on that piece also as it will be graded separately.

0.9

1.2 (a)

And ADD to 1.2 (a), the following: “1.2 supplement. Draw an unlabeled tree on 10 vertices with no symmetries. “No symmetries” means that this tree has NO automorphism besides the identity. Argue that for such a tree there are  $10!$  distinct labelings. ’

Extra credit: For  $n \gg 1$  do you think the typical tree on  $n$  vertices has any symmetries? What fraction of the total?