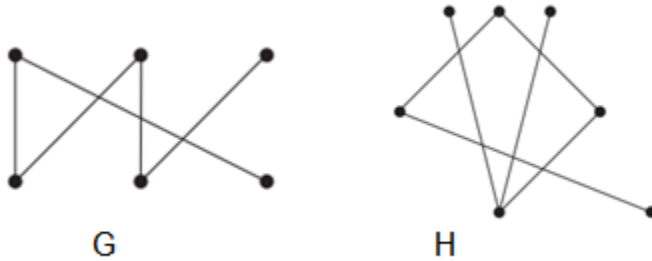# Review – Chapter 10 Trees

1. Which graphs are trees?



G                    H

   A. G only
   B. H only
   C. Both
   D. None

2. A full 4-ary tree with 16 leaves has _____ vertices.
   A. 21
   B. 20
   C. 15
   D. 17

3. What is the height of the binary search tree for the sequence 9, 11, 5, 13, 7, 2, 6, 1, 14.
   A. 1
   B. 2
   C. 3
   D. 4

4. Consider the codes:
   (i)     a: 10    b: 11    c: 010   e:011
   (ii)    a: 10    b: 100   c:0      d:11
           Which codes are prefix codes?
   A. (i) only
   B. (ii) only
   C. Both
   D. None

5. What is the average number of bits required for encoding the word "banana" using Huffman coding algorithm?
   A. 2
   B. 5/3
   C. 1.5
   D. 1.7

6. Find the prefix form of the infix expression (3*x + y) - (x – 2*y)/4.
   A.  - + * 3 x y / - x * 2 y 4

B. - + 3 * x y - / x * 2 4 y
C. + - 3 * x y - / x * 2 y 4
D. None of these

7. Evaluate the expression  - + * 3  2 7 / - 8 * 2  2 4
   A. 10
   B. 12
   C. 6
   D. 8
   E. None of these

KEY:         1C      2A      3C      4A      5C      6A      7B