

1. (1 pt.)

- This *quick check* is **closed book, notes, etc.**
- You may use a 3 in.  $\times$  5 in. **reference card**, *hand-written by you*.
- Use the **classroom and textbook conventions** and terminology.

Read the above carefully; then write your name below:

2. (6 pts.) [Complete the sentences as precisely as possible.]

(a) In the *implicit representation* of a tree, the tree is stored in [what form?] ...

(b) The *structure property* requires that a binary heap is a [what kind of binary tree?] ...

(c) The *heap-order property* requires that [state the condition] ...

3. (3 pts.) Given a perfect binary tree of height  $h$ , provide expressions (using  $h$ ) for

- (a) the number of nodes in the tree
- (b) the sum of the heights of nodes in the tree.