**CSE 373 QuickCheck 2** Name: _____ Student ID: _____

For answers that involve filling-in a ☐, fill-in the shape completely: ■.

1. Mark all of the following true expressions about the height of a binary search tree of size $N$.

   ☐ $O(\log N)$ ☐ $\Theta(\log N)$ ☐ $\Omega(\log N)$

   ☐ $O(N)$ ☐ $\Theta(N)$ ☐ $\Omega(N)$

2. Mark all of the following true expressions about the height of a B-tree of size $N$.

   ☐ $O(\log N)$ ☐ $\Theta(\log N)$ ☐ $\Omega(\log N)$

   ☐ $O(N)$ ☐ $\Theta(N)$ ☐ $\Omega(N)$

3. Draw the 2-3 tree that results from inserting the following items in this order: 1, 2, 3, 7, 8, 9, 5.

4. Draw the corresponding left-leaning red-black tree. Write "red" next to red links.