Name: _____

1. Give the name and definitions for the three properties required for a solution to critical section

2. Describe some strategies for finding race conditions in source code.

3. Give a scenario where there is an apparent race condition in code but it isn't something that requires a critical section to fix.

4. Given that some race conditions aren't important, why is it unlikely that automated tools will ever be able to identify them?

5. Why don't we use peterson's solution for mutual exclusion any more?

6. Explain the role of hardware in supporting mutual exclusion.

7. Prove that if semaphore's wait() and signal() operations aren't done atomically then mutual exclusion may be violated.

8. Busy-wait a.k.a. "spinlock" was explained as a "tight loop" that waits for the resource to become available. Given that semaphores can efficiently pause a process while its waiting, why are these still used?