

Note: To Get points, you should provide detailed expressions for each question.

- 3. (20 points)** The time it takes to solve a problem is exponentially distributed with a mean of 2 minutes. Two students Ian and Ted begin working on the problem at the same time. Assume that the students are working independently.
- (a)** Find the probability that at least one of the students has solved the problem at the end of 2 minutes.
 - (b)** Find the probability that Ian takes at least twice as long as Ted to solve the problem.