Quiz 2

1. Circle the following statements that are logically equivalent to ‘Come to class or you won’t know the material.”
   
a. Coming to class is sufficient for knowing the material.
b. Coming to class is necessary for knowing the material.
c. If you know the material, then you come to class.
d. If you come to class, then you know the material.
e. You don’t know the material only if you don’t come to class.

2. Write the negation of $p \leftrightarrow q$. Remember that $p \leftrightarrow q \equiv (p \rightarrow q) \land (q \rightarrow p)$. You will not have any conditionals in your answer.

Answers
1. The statement is logically equivalent to “If you don’t come to class then you won’t know the material. The statements logically equivalent to this are: b and c.

2. $\sim (p \leftrightarrow q) \equiv \neg [(p \rightarrow q) \land (q \rightarrow p)] \equiv (p \rightarrow q) \lor (q \rightarrow p) \equiv (p \land \sim q) \lor (q \land \sim p)$