Attendance Problems 1: Due October 1

Answer these questions throughout the upcoming week and bring this completed sheet to CS103A next week. This will count as your attendance for Week 2. Circle the correct choice for each question, briefly justifying your answer.

**Lecture 01: Direct Proofs**

1) Which of the following is a *universal statement*?
   A) 103 + 34 = 137
   B) I was wondering if after all these years you'd like to meet to go over everything
   C) Don't waste time with a masterpiece
   D) Everything happens for a reason

   *Explanation:*

2) Which of the following is an *existential statement*?
   A) There's a lady who's sure all that glitters is gold
   B) She's buying a stairway to heaven
   C) When she gets there, she knows
   D) If the stores are all closed, in a word she can get what she came for

   *Explanation:*

**Lecture 02: Indirect Proofs**

3) Which of the following is an *implication*?
   A) I never like to admit that I was wrong
   B) I've been so caught up in my job; didn't see what was going on
   C) But now I know, I'm better sleeping on my own
   D) If you like the way you look that much, you should go and love yourself

   *Explanation:*
4) What is the **contrapositive** of the statement "If someone is happy, then everyone is happy?"
   A) If everyone is happy, then someone is happy.
   B) If someone is not happy, then everyone is not happy.
   C) If everyone is not happy, then someone is not happy.
   D) If everyone is happy, then someone is not happy.
   E) If someone is not happy, then everyone is happy.

   *Explanation:*

5) What is the **negation** of the statement "If someone is happy, then everyone is happy?"
   A) If someone is not happy, then everyone is not happy.
   B) If someone is happy, then someone is not happy.
   C) Someone is happy and everyone is not happy.
   D) Someone is happy and someone is not happy.
   E) Someone is not happy and everyone is not happy.

   *Explanation:*