MA 110-02 §3.4 – 3.7	**Quiz #4**	*score*	**Name:** _____ **16 July 2001**

1. There are 4 red marbles and 6 green marbles in a bag. Three marbles are randomly chosen. What is the probability all three are red? *(5 points)*

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2. Two people play a game using a standard deck of 52 cards. Player A draws a single card. If its value is between two and ten (inclusive) Player A wins \$1 from Player B. If the value is a face card (jack, queen, or king), Player B wins \$2 from Player A. If the card drawn by Player A is an ace, Player B wins \$6. Find the expected value of the game from the point of view of Player A. *(5 points)*

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3. A die is rolled two times. Let E be the event "the sum of the two rolls is 7" and let F be the event "the first roll is a 4."

   (a) Find $P(E)$ and $P(F)$. *(3 points)*

   (b) Find $P(E|F)$ and $P(F|E)$. *(4 points)*

   (c) Are E and F independent? Are they mutually exclusive? Explain. *(3 points)*