

MA 110-91
§3.5-3.7-

Quiz #6

score

Name: _____

30 March 2002

1. You and I decide to play a game in which you roll two fair dice. If the numbers showing on the dice differ by 2 or less, you have to pay me \$1. If the numbers differ by more than 2, I have to pay you \$1.50. Find the expected value of the game from your point of view. Should you play this game? (7 points)

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2. A single die is rolled twice. Find the probability that the sum of the two rolls is 8. Next, find the probability that the sum is 8, given that the first die is 4. Then find the probability the sum is 8 given than one of the dice is 4. (6 points)

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3. Widgets are manufactured at two factories. Factory A produces 25% of the total with a defective rate of 2%. Factory B produces 75% of the total with a defective rate of 1%. Find the probability that a randomly selected widget is defective. (7 points)