

Quiz 1 Calculus 1 1/18/2006

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. The manager of a furniture factory finds that it costs \$2200 to manufacture 100 chairs in one day and \$4200 to produce 200 chairs in one day. Express the cost as a function of the number of chairs produced, assuming that it is linear.¹

2. Suppose that exposure to a certain chemical increases the likelihood of developing a particular form of cancer, so that if a person is exposed to 1 gram of the chemical they have a 5% chance of developing the cancer, but if they're exposed to 2 grams of the chemical they have an 8% chance of developing the cancer. If the relationship is linear, express the probability of developing the cancer as a function of the amount (in grams) of the chemical a person is exposed to.

¹This problem based on Stewart 5th, p. 36.