

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS & STATISTICS
STAT 211.02 Quiz #5

Name: _____ ID #: _____

- 1) Returns on a certain business venture are known to follow the probability distribution

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|-------------------|--------------|--------------|------------|-------------|-------------|-------------|
| <i>Return : x</i> | <i>-2000</i> | <i>-1000</i> | <i>0</i> | <i>1000</i> | <i>2000</i> | <i>3000</i> |
| <i>P(x)</i> | <i>0.1</i> | <i>0.1</i> | <i>0.2</i> | <i>0.2</i> | <i>0.3</i> | <i>0.1</i> |

- a) What is the long term average earning of this business venture?

- b) What is the variance?

- c) In terms of the business decision, what is this variance a measure of?

- 2) A sales man makes 10 door to door visits to demonstrate the use of an appliance. There is a constant probability of 0.2 that the customer would buy the product.
 - a) What is the probability that he makes 4 sales?

 - b) What is the probability that he makes at least one sale?

 - c) Do you need to make any additional assumptions? If yes, what?

- 3) The salesman in problem 2 decides to visit a neighborhood with 25 houses, and it is known that 10 of those houses would make a purchase of the appliance.
 - a) What is the probability that the salesman will not make a sale?

 - b) What is the probability that he will make at most 1 sale?