Chapter 6a "FRAPPY"

{Free Response AP Problem...Yay!}

The following problem is taken from an actual Advanced Placement Statistics Examination. Your task is to generate a complete, concise statistical response in 15 minutes. You will be graded based on the AP rubric and will earn a score of 0-4. After grading, keep this problem in your binder for your AP Exam preparation.

A simple random sample of adults living in a suburb of a large city was selected. The age and annual income of each adult in the sample were recorded. The resulting data are summarized in the table below.

	Annual Income			
Age Category	$25,000-$35,000	$35,001-$50,000	Over $50,000	Total
21-30	8	15	27	50
31-45	22	32	35	89
46-60	12	14	27	53
Over 60	5	3	7	15
Total	47	64	96	207

Scoring:

(a) What is the probability that a person chosen at random from this sample will be in the 31-45 age category?

E   P   I

(b) What is the probability that a person chosen at random from those in this sample whose incomes are over $50,000 will be in the 31-45 age category? Show your work.

E   P   I

(c) Based on your answers to parts(a) and (b), is annual income independent of age category for those in this sample? Explain.

E   P   I

Total:___/4