Explain what is wrong with this interpretation. Give the correct percentage for this interpretation.

2.12 A 20-year cohort study of British male physicians (R. Doll and R. Peto, *Br. Med. J.* **2**: 1525–1536, 1976) noted that the proportion per year who died from lung cancer was 0.00140 for cigarette smokers and 0.00010 for nonsmokers. The proportion who died from coronary heart disease was 0.00669 for smokers and 0.00413 for nonsmokers.

a. Describe the association of smoking with each of lung cancer and heart disease, using the difference of proportions, relative risk, and odds ratio. Interpret.

b. Which response is more strongly related to cigarette smoking, in terms of the reduction in number of deaths that would occur with elimination of cigarettes? Explain.

2.13 For the Women's Health Study, heart attacks were reported for 198 of 19,934 taking aspirin and for 193 of 19,942 taking placebo (*J. Am. Med. Assoc.* **295**: 306–313, 2006). Construct the 2 × 2 table that cross-classifies the treatment with whether a heart attack was reported. Estimate the odds ratio. Interpret. (As of 2006, results suggested that, for women, aspirin was helpful for reducing risk of stroke but not necessarily risk of heart attack.)

2.14 According to poll results released by the Pew Research Center (`www.people-press.org`) in 2010, when adults in the United States were asked whether there is solid evidence that the average temperature on earth has been getting warmer over the past few decades, the estimated odds of a yes response for a Democrat was 2.96 times higher than for an Independent, and it was 2.08 times higher for an Independent than for a Republican. Find the estimated odds ratio between opinion on global warming and whether one is a Democrat or a Republican. Interpret.

2.15 Table 2.11 refers to applicants to graduate school at the University of California at Berkeley, for fall 1973. It presents admissions decisions by gender of applicant for

Table 2.11 Data for Exercise 2.15 on Graduate Admissions

	Whether Admitted			
	Male		Female	
Department	Yes	No	Yes	No
A	512	313	89	19
B	353	207	17	8
C	120	205	202	391
D	138	279	131	244
E	53	138	94	299
F	22	351	24	317
Total	1198	1493	557	1278

Source: Data from P. Bickel et al., *Science* **187**: 398–403, 1975.