

## Question 5

A group of researchers are examining attitudes about the Affordable Care Act. They asked the following question to 781 respondents, "From what you've heard or read, do you approve or disapprove of the health care law that was enacted last year?"

Unfortunately, the researchers have had computer trouble, and they have only been able to retrieve the information presented in the following table. It contains partial information for each cell, including some observed counts, some expected frequencies (in parentheses), and some column and row totals.

	Response		
	Yes	No	Total
Democrats	221 (205.58)	225 (240.42)	446
Republicans	139 (154.42)	196 (180.58)	335
Total	360	421	781

- Use the information listed to complete the table. Be sure to calculate both the observed and expected frequencies for each cell. *4/24*
- Calculate the cell component for the  $\chi^2$  statistic for the lower-right cell of the table (i.e., Republicans who responded No).
- The  $\chi^2$  statistic for this table is (approximately) 5.02. Specify and conduct a hypothesis test using this number.
- In one sentence, what does this table tell us about the relationship between party and attitudes on the Affordable Care Act?

$$b) \chi^2 = \frac{(196 - 180.58)^2}{180.58}$$

$$\chi^2 = 1.32$$

$$c) \sum \chi^2 = \frac{(221 - 205.58)^2}{205.58} + \frac{(225 - 240.42)^2}{240.42} + \frac{(139 - 154.42)^2}{154.42}$$

null: 5.02 < 5.005

$$1.1661 + .9890 + 1.5398 + 1.32 = 5.005$$

We reject the null hypothesis

d) This table tells us that Democrats are more likely to support the ACA