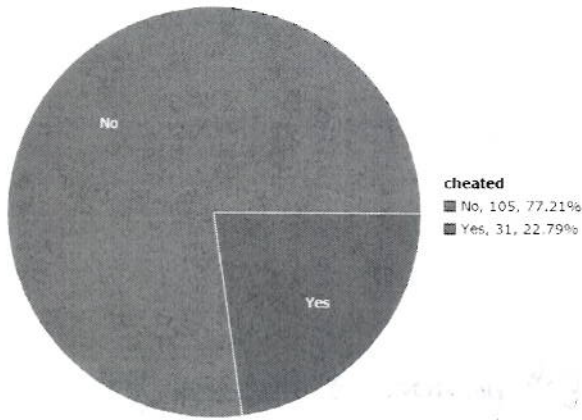A question I asked on the survey at the beginning of the semester was "Have you ever cheated on a significant other?" The possible answers to this question were 1) Yes and 2) No.

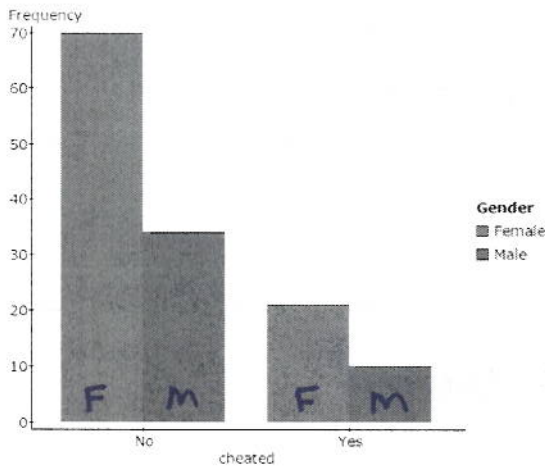### Standard Four: Quiz Two – Graphical Summaries?

For the following graphs make a meaningful observation about the data being considered.

i.   Pie Chart of Cheaters!

cheated
- No, 105, 77.21%
- Yes, 31, 22.79%

Surprisingly, to me, 23% - which is almost 1 in 4 - students surveyed have cheated on a significant other.

ii.   Bar Chart of Cheaters by Gender

Gender
- Female
- Male

	No	Yes	Total
Female	70 (76.92%)	21 (23.08%)	91 (100%)
Male	34 (77.27%)	10 (22.73%)	44 (100%)
Total	104 (77.04%)	31 (22.96%)	135 (100%)

While you might want to say females cheat more than males you must be careful!

By a count, there are more females than males that have cheated from our sample – we must note, however, that we sampled far more females than males overall. (91 vs. 44)
*   F   M*

Looking at the table we can see that even though we have 21 female cheaters and 10 male cheaters the percentages are almost the same; roughly 23% of each gender have cheated based on our sample! WOOF!

Name: KEY _____

Below is a sample of nine from the class data referring to the number of alcoholic beverages students had during the first week of class. Please calculate the following numerical summaries for this data:

$$0, 0, 0, 15, 20, 24, 35, 40, 45 \qquad n=9$$

NOTE: $\sum x = 179$ $\qquad$ $\sum(x - \bar{x})^2 = 2490.89$ $\qquad$ $variance = \frac{\sum(x-\bar{x})^2}{n-1}$

Standard Five: Quiz Two – Numerical Summaries – Measures of Center?

Mean: $\bar{X} = \frac{\sum x}{n} = \frac{179}{9} = 19.\overline{88}$

Median: In the $.5(9+1)^{th}$ position = 5th position → Median = 20

Mode: 0

Standard Six: Quiz Two – Numerical Summaries – Measures of Variability

Range: max − min = 45 − 0 = 45

Variance: $s^2 = \frac{\sum(x-\bar{x})^2}{n-1} = \frac{2490.89}{9-1} = 311.3613$ beverages^2

Standard Deviation: $S = \sqrt{s^2} = \sqrt{311.3613} = 17.6454$ beverages