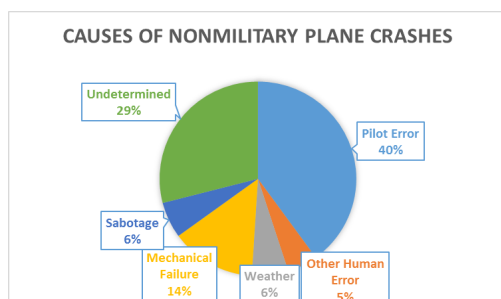


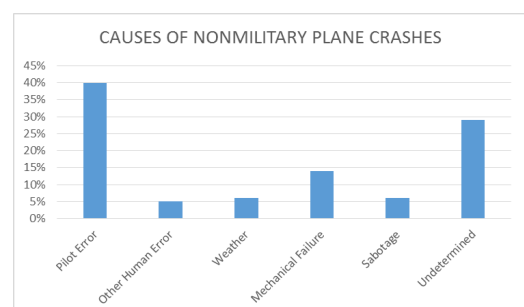
Day 4 Homework

2. D. Of all grade levels, 11th graders are least likely to text a girlfriend/boyfriend. (9/38 compared to 10/42 and 12/35 and 21/45)
3. C. The percentages do not indicate what the size of the Facebook and Twitter populations are.
10. Of the 1755 students who applied, 53% were accepted, 17% were waitlisted and 30% were turned away.
13. a. Yes, as long as each crash had only one cause.
(6%+14%=20%)
- b. 29% = 100-(40+5+6+14+6) had other unidentified causes

15.



OR



2. Texting A survey of students at a Wisconsin high school asked the following question:

Whom do you most often text during class?

____ family members ____ girlfriend/boyfriend
 ____ friends inside school ____ friends outside school

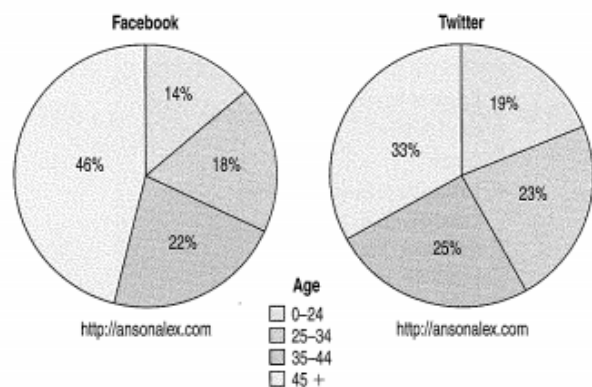
The results, sorted by grade, are summarized in this table:

Grade	Family Members	Girlfriend/ Boyfriend	Friends Inside School	Friends Outside School	Total
9th	19	10	8	5	42
10th	17	12	5	1	35
11th	13	9	11	5	38
12th	8	21	10	6	45
Total	57	52	34	17	160

Which statement about these results is correct?

- A) The proportion of 9th graders who said they text family members most is $19/57$.
 B) Among those who said they text girlfriend/boyfriend the most the proportion who are seniors is $21/45$.
 C) The proportion of 10th graders who said they text friends inside school the most is greater than the proportion of *all* students who said that.
 D) Of all the grade levels, 11th graders are least likely to text a girlfriend or boyfriend.

3. Social media and age The pie charts below show the percentages of users of Facebook and users of Twitter that fall into various age groups.



Which of the following cannot be concluded from the pie charts?

- A) Facebook has a larger proportion of users in the 45+ age range than Twitter.
 B) The smallest age group for both Facebook and Twitter users is the 0-24 age group.
 C) There are about the same number of Facebook users as Twitter users.
 D) Both Twitter and Facebook have more people in the 45+ age group than any other age group.

10. **Magnet schools** An article in the Winter 2003 issue of *Chance* magazine reported on the Houston Independent School District's magnet schools programs. Of the 1755 qualified applicants, 931 were accepted, 298 were wait-listed, and 526 were turned away for lack of space. Find the relative frequency distribution of the decisions made, and write a sentence describing it.

13. **Plane crashes** An investigation compiled information about recent nonmilitary plane crashes (www.planecrashinfo.com). The causes, to the extent that they could be determined, are summarized in the following table.

Cause	Percent
Pilot error	40
Other human error	5
Weather	6
Mechanical failure	14
Sabotage	6

15. **Plane crashes again** Create an appropriate display for the data described in Exercise 13.

- a) Is it reasonable to conclude that the weather or mechanical failures caused only about 20% of recent plane crashes?
b) In what percent of crashes were the causes not determined?

Two Way Tables and Conditional Probability Practice

EXERCISES

Pg. 21

Each year the study *Monitoring the Future: A Continuing Study of American Youth* surveys students on a wide range of topics related to behaviors, attitudes, and values. These exercises are based on data collected from the 2011 survey of 12th grade students.

Table 13.12 organizes data on gender and responses to the following question:

What How intelligent do you think you are compared with others your age?

Responses to this question have been boiled down into three categories: Below Average, Average, and Above Average.

		Intelligence		
		Below Average	Average	Above Average
Gender	Female	437	2243	4072
	Male	456	1643	4593

Table 13.12. Results from questions on gender and intelligence.

1a. Compute the marginal totals and enter them into your table.

		Intelligence			
		Below Average	Average	Above Average	Marginal Totals
Gender	Female	437	2243	4072	6752
	Male	456	1643	4593	6692
	Marginal Totals	893	3886	8665	13,444

b. What percentage of the students who answered both questions were male? Female? Show your calculations. (Round percentages to one decimal.)

b. % Male: $\frac{6692}{13,444} = 49.8\%$

% Female: $\frac{6752}{13,444} = 50.2\%$

> 100%

c. What percentage of the students rated their intelligence as above average? What does this tell you about 12th grade students' assessment of their intelligence?

c. % Above Average: $\frac{8665}{13,444} = 64.5\%$

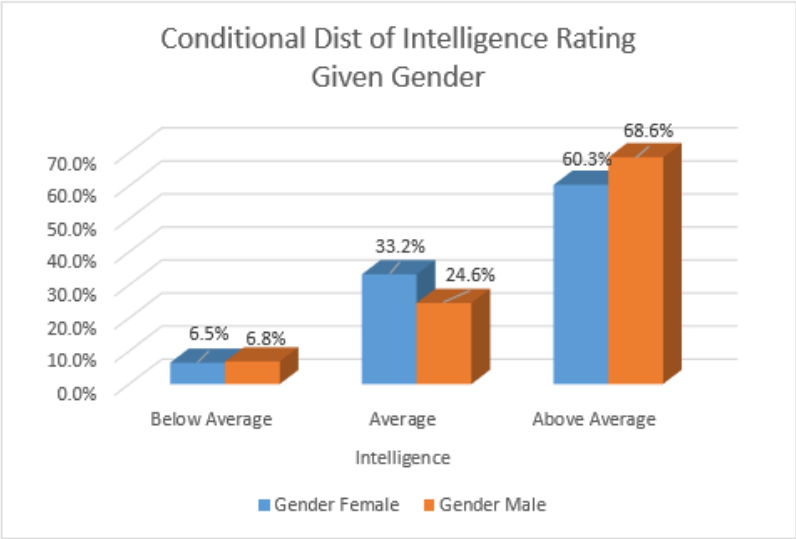
Tells you what? Of the 12th grade students
surveyed, more than half (64.5%)
consider themselves to be above
average intelligence.

2a. Compute the Conditional Distributions of Intelligence for Males and Females.
Record the results in a table. Show work.

	Intelligence			
	Below Average	Average	Above Average	Totals
Female	$\frac{437}{6752} = 6.47\%$	$\frac{2243}{6752} = 33.22\%$	$\frac{4072}{6752} = 60.31\%$	100%
Male	$\frac{456}{6692} = 6.81\%$	$\frac{1693}{6692} = 25.4\%$	$\frac{4543}{6692} = 67.79\%$	100%

b. Represent the distributions in your table from (a) in a bar chart.

2b. See below (Done for you)



c. Write a brief description of how the male respondents rated their intelligence compared to female respondents.

Of the group of 12th grade students surveyed, more males (68.6%) considered themselves to be of above average intelligence as compared to 60.3% of females who considered themselves to be of above average intelligence.