

Demographics I

For this activity (and all pencil-and-paper work in this course), use a fresh sheet of lined or graph paper for your work. Don't hand in the problem sheet itself! Be sure to put your name, the activity name, and the date at the top of your work. If it's an assignment, hand it in to your QR mentor *before class starts* on the day when it is due.

1. This question concerns actual data for racial and religious groups within the entire U.S. population:

a. Population by race and age in U.S. (actual numbers, according to U.S. Census):

White	176,847,972	-13	56,694,771
Black/African-American	33,965,026	14-17	17,206,962
Hispanic/Latino	35,305,818	18-24	29,492,415
American Indian/ Native American	2,475,956	25-44	83,752,215
Asian	10,242,998	45-64	76,586,836
Other	15,757,908	65-84	37,887,958
Multi-racial	6,826,228	85-	5,512,298

Convert these numbers to percents and make two pie charts to display the data.

b. Population by religion in U.S. (percentages, according to *Statistical Abstract of the U.S.*, 1999):

Protestant	55
Catholic	28
Jewish	2
Muslim	1
Other	5
None	8

Convert the percentages to actual numbers, and make a pie chart displaying the data.

Before continuing, you will need to know some vocabulary, so read the definitions at the top of the next page before proceeding to the questions below them.

A **majority** of a population means “more than half.” So, if 100 people vote in an election, a candidate who receives 51 votes (or more) has a majority of the votes. Look at these examples, where candidate B has a majority in the first election but nobody has a majority in the second or third:

Candidate	Votes in Election 1	Votes in Election 2	Votes in Election 3
A	21	23	33
B	56	50	40
C	23	27	27

A **plurality** of a population means “more than any other group.” So candidate B has a plurality in all three elections.

2. In the 2000 presidential election, the official vote count in the state of Florida was as follows:

Bush	2,912,790
Gore	2,912,253
Nader	97,421
Buchanan	17,412
Browne	16,102
Hagelin	2,274
Phillips	1,378
Other	3,027

- a. Find the percentage of the vote that each candidate received.
 - b. Who received a majority of the votes?
 - c. Who received a plurality of the votes? (In presidential elections, a plurality in a state is usually sufficient to win the state.)
 - d. If 10% of the Nader voters had switched to Gore, how would it have affected the election?
 - e. If the minor candidates (everyone except Bush and Gore) weren't on the ballot, consider this scenario: half of their voters would have stayed home; 40% of the Nader voters would have voted for Gore, 10% for Bush; 5% of the Buchanan-Browne-Hagelin-Phillips-Other voters would have voted for Gore, and 45% of them would have voted for Bush. What would the election results have been under this scenario?
3. Perform a similar analysis of the 2002 election for governor of Massachusetts. (Results are on the right.) Try out the extreme assumption that all of Johnson's voters would have voted for Romney if she hadn't been on the ballot and all of Stein's voters would have voted for O'Brien. Would it have affected the results? Suppose they had split in some other way; could it have affected the results? Explain!
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| Johnson | 15,335 |
| O'Brien | 985,981 |
| Romney | 1,091,988 |
| Stein | 76,530 |
4. The state of Georgia *requires a majority*, not just a plurality, for its elections. In the Democratic primary for U.S. senator in 2005, the votes were 256,012 votes for Majette; 126,552 for Oxford; 86,208 for Boyd; 59,836 for Baier; 54,320 for Squires; 22,267 for Finkelstein; 16,045 for Cottingham; and 9,063 for Patel. If you were in charge of running this election, how would you determine the winner?