

Wednesday, April 24

Follow the separate general guidelines for Parts A,B,C. Be sure to include and label *all four* standard parts (a), (b), (c), (d) of Part A in what you hand in.

Two negative theorems; desirable properties
Sections 13.3, 13.4, 13.5

A: Reading questions. Due by 3pm, Mon., 29 Apr.

1. Discuss Remark 13.3.2 and Figure 13.6. What is an argument that the relative ranking of A and B should be the same in both profiles of the figure? What is an argument that the relative ranking of A and B should be different in the different profiles of the figure.
2. Compare and contrast Arrow's Theorem and Gibbard-Satterthwaite Theorem. How are they similar and how are they different?
3. The examples in Figures 13.2 and 13.3 show how some voters can strategically change their votes to get a new outcome that they prefer to the original outcome. But it does **not** illustrate the Gibbard-Satterthwaite Theorem; explain why not.
4. Rank the five "desirable properties of voting systems beyond unanimity and IIA", from most important to least important, in your opinion. Explain your reasoning.

B: Warmup exercises. For you to present in class. Due by the end of class Mon., 29 Apr.

Construct an example showing that plurality voting satisfies the Gibbard-Satterthwaite Theorem.

Analysis of specific voting rules
Section 13.6

A: Reading questions. Due by 2pm, Tue., 30 Apr.

1. Apply each voting rule in this section to the examples in Figures 13.1, 13.2, and 13.3. For positional voting, have each voter assign 3 points to their top candidate, 1 point to their second-most-favorite candidate, and 0 points to their least favorite candidate. For approval voting, have each voter approve their top two preferences.

B: Warmup exercises. For you to present in class. Due by end of class Wed., 1 May

Construct examples showing that each voting rule in this section satisfies the Gibbard-Satterthwaite Theorem.