

*Instructor's Manual (Public half) for  
Ways and Means, 1935: Debating the Social  
Security Act through Math*

*A math-centered short "Reacting to the Past" game*

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## Introduction

*Ways and Means, 1935* is an in-class role-playing game meant for Quantitative Literacy (QL)/Quantitative Reasoning (QR) classes. Students debate various social insurance policies (pensions, disability, unemployment, aid to widows & orphans, and health care) in their roles as members of the US House of Representatives. It is meant to occupy two weeks of class time, one for preparation and one for role-playing (with a spacer week or two on some other topics between them), while using many skills and concepts from earlier in the class.

This role-playing game is modeled on the “Reacting to the Past” (RTTP) games pioneered at Barnard College; <http://reacting.barnard.edu/>

We are not aiming to re-create the outcome of the 1935 debate. It is fine if the entire new bill fails, or if more programs are created than what really happened in 1935, as long as the results are based on sound numbers and arguments. This is not a scripted play or re-enactment.

The instructor’s manual for this game is divided into a public half and a non-public half. This is the public half, which will be posted on the internet for potential adopters of the game to read while they decide whether to adopt it or not. The material it contains will not give any large advantage to any students who discover it. The non-public half contains the role sheets, various economic data from 1935 to be shared perhaps piecemeal with students, the reading quiz, etc. and will be in a password-protected forum.

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## General Education Objectives

(the text in this section is copied almost verbatim from the instructor’s guide to *The Trial of Galileo*; non-obvious changes are noted to the side.)

This game focuses on classic issues in public policy. But the game more generally addresses the concerns of general education. Nearly all general education programs affirm the importance of “critical thinking,” problem-solving, teamwork, empathy with other peoples and ideas, awareness of diversity, fostering leadership, etc. The following list is intended to help instructors think about how this game might be implemented to achieve the objectives of general education.

### *Critical Thinking*

This broad skill is commonly defined as the ability to define a problem, ascertain the relevant facts, examine the assumptions of contending arguments, and accept that all results are tentative and open to revision. This game promotes such skills in various ways. Students are obliged to marshal evidence and logic to advance their “own” position and undermine the arguments of their critics. During class debates, feedback from peers—perhaps the most meaningful of all forms of feedback!—is instantaneous and emphatic. By demonstrating the power of incomplete or even fallacious arguments, students learn that all arguments are subject to revision.

### ***Quantitative Reasoning***

In the game, students are obliged to master (and explain) multiple examples of the quantitative and human aspects of social insurance. They use percents, large numbers (millions and billions), probability, compound interest, direct and inverse proportions, and choosing proper comparisons for numbers. More advanced topics that are possible include piecewise-linear functions and linear regression.

### ***Communications skills***

In this game, students must advance their positions in writing and in class debates. Faculty assess student work, as in other classes; but in “Reacting,” students also benefit from the response of other students to written work. Most papers are posted on a class web site. Commonly, students who support the New Deal will scrutinize the papers of the Conservatives, citing errors of evidence and logic; the Conservatives will similarly point up the shortcomings in the New Dealers’ arguments. Students also hone their speaking skills by providing set-piece speeches as well as participating in spontaneous debates.

### ***Problem-solving and Teamwork***

Students are assigned to factions, each of which is confronted with multifaceted problems: intellectual (advancing their set of ideas, many of which are problematic); political (mobilizing other groups to join with them on particular votes); and social (ensuring that the faction functions effectively, dividing tasks and yet ensuring that the different elements come together at the proper times).

### ***Leadership***

The game provides leadership opportunities for three students, each one leading their faction.

### ***Empathy and Diversity***

This game assigns students to roles as liberals and conservatives, often regardless of their modern-day (21st century) leaning. One of the best conservative leaders we have seen in class was actually on unemployment benefits during that semester. Also, the game reminds students of the value of diversity by making them all white upper-class men (except for Eleanor Roosevelt) in Congress.

### ***Civic Engagement***

This game not only teaches the leadership, teamwork, and problem-solving skills that are essential to civic engagement, but it also shows the centrality of issues of power and governance to nearly all aspects of life. Students also learn about (or exercise their knowledge of) the US Congress, though most procedural and constitutional questions are left out to focus on learning to argue/reason using numbers.

## **Mathematics Education Objectives**

The game is designed roughly as a capstone in a quantitative literacy course that already teaches the following skills:

- Big Numbers & Scientific Notation: Thousand, Million, Billion, (Trillion)
- Fermi-style estimation

- Putting Numbers in Context
- Direct and Inverse Proportions
- Percents, percentage points
- Compound Interest/Saving a Little Each Year
- Histograms/Income & Age distributions
- Probability, Expected Value, Insurance

(Trillions are not used in 1935, but are useful to teach in the 21<sup>st</sup> century)

The following topics are optional ways of making the game more realistic:

- Piecewise Linear functions, “Flat” tax w/exemption, progressive tax
- Mean, Median, Skewness (more important if progressive taxes are used)
- Inflation and CPI (if not included, simply suppose that all numbers will be adjusted automatically for inflation)
- Linear Regression (for projecting worker/retiree ratios into the future)

The textbook that the game authors use was developed here at Eastern Michigan University; it is not currently for sale outside the university, but if a potential adopter would like to see it we can provide a review copy. For a table of which topics link with which chapters in some common Quantitative Literacy textbooks, see the Textbook Alignment appendix.

### Mathematical Misdirections

Part of the fun of the game is to deliberately use numerical statements in a misleading way, hoping that it will sway the swing voters but not be caught by the opposing side. Here are some common examples:

- Percent vs. Percentage Points
  - “Our proposal is a modest 1% increase in taxes, from 10% to 11%”
- Real vs. Nominal (accounting for inflation, or not)
  - “Your proposal, sir, would have us double what the government takes in taxes, every 30 years.”
- Mentioning (somewhat?) rare cases without quantifying their prevalence
  - “How can the American people spend their money to support deadbeat bums who fake their disabilities?”

- Giving too much precision, to appear very knowledgeable.
- Leaving out context
  - “If you save just \$15/month, you will have \$800,000 when you retire”

It might feel strange, but it is not the job of the instructor in an RTTP game to point out such flaws; it is the job of the students in their roles. As we teach each of these topics (percentage points, inflation, context, etc.) we point out these misdirection possibilities, so that students should know to be on the lookout for them in the game.

### Different Ways to Focus

In our experience, students have difficulty grasping even the direct-proportion sort of taxation. If your class is more advanced, you might consider adding some of these more advanced topics. Perhaps there could even be a second playing of the game, with roles reassigned.

- Payroll tax vs. Income tax: who pays?
- Direct Proportion tax vs. Progressive taxation (e.g. a 3% tax on income over \$1500)
- Steady-state vs. start-up: do we start paying pensions immediately?
- Actuarial projections: what if the ratio of workers to retirees changes by the time we get to the 21<sup>st</sup> century?

### Teaching Ways and Means

Many Reacting to the Past games focus on one or two classic texts, such as Galileo’s “Dialogues on the Two Chief World Systems”. One might expect this game to focus on an existing historical draft of the Social Security bill.<sup>1</sup> However, we have avoided such a focus due to the short timeline of our game: we want students to focus on numerical arguments rather than decoding legal texts and constitutional issues (block grants to states, etc.). Also, starting with a draft bill might bias them for or against certain provisions, while we want them to practice their arguments with all of the issues under consideration equally. However, we do give links to primary documents in the student gamebook in case highly motivated students want to use them.

Instead of classic texts, we could say that our game is centered on the numbers: the demographics of the population, the income levels, etc. and on the spreadsheets used to do calculations.

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<sup>1</sup> Such as HR 4120, introduced on behalf of the administration by Rep. Doughton on January 17, 1935; <http://www.ssa.gov/history/fdrbill.html> or the report of the Committee on Economic Security, <http://www.ssa.gov/history/reports/ces/cesbasic.html>

## Keeping Students Focused on Quantitative Reasoning

There is a tendency in debates for the Conservative side to focus on saying “No” and argue more about freedom than about numbers. While a certain amount of this is healthy, it can sometimes be an excuse for them to avoid doing calculations. It is important to point out to them that the Center faction would like to see a numeric explanation of how people could get by in life without the government programs that the New Deal is proposing.

Sometimes the Conservatives realize that if debate drags on about early topics, there will be no chance to discuss later topics, and so by default those topics will not be included in the draft bill. This certainly is similar to real-life legislative tactics, but is not conducive to students exercising their mathematical skills. The Gamemaster may wish to prod the Chairman to move the game along if this happens.

Another possible tactic for the Conservatives is to offer their own new government programs, but on such a small scale that they amount to essentially no new program. This has happened in recent semesters. For example, one class allocated only 5% of what was actually needed to fund health care, thus amounting to a win for the Conservatives on that issue even though the New Dealers thought they were winning. This is an entirely legitimate tactic that the Gamemaster might even want to plant in the Conservatives’ heads.

## Faculty Confusion and Resources

For many Reacting games, faculty may wish to post a query inside the website [rttp.org](http://rttp.org); it is restricted to “Reacting” faculty. There is usually a 48-hour delay before registrants are certified and admitted. Once admitted, you can post your query on an established thread or start a new one; either the game designers or other faculty members familiar with the game will likely offer suggestions on how to proceed. Perusal of various threads for the game also provides some sense of the problems you may confront.

There is also a “Faculty Lounge” for Reacting instructors on Facebook; see <http://reacting.barnard.edu/facebook>

You are also welcome to email the mathematical game authors, Curran and Ross.

## Student-run classes

After the setup sessions, students run the classes. Faculty members should move to the back of the room, intervening infrequently, usually to offer a ruling on procedural matters.

## Instructor-run setup, post-mortem

Nevertheless, faculty must “set up” the game and run the final “post-mortem” session.

Faculty involvement enriches the “Reacting” experience immeasurably. But this does not require that they master the numeric and civic issues in advance of the game. Rather, faculty promote the game most effectively by meeting with factions to ensure that they are well-organized; by reminding students that they are to cite the central numbers in their speeches and papers; by forcing students to post their papers on the class web site and by grading all papers promptly; and by prodding laggard or shy students to voice “their” views, perhaps by giving them notes in

class, meeting with them afterwards, or sending them e-mail reminders. In “Reacting,” faculty teach by mentoring, coaching, and tutoring students, not simply by imparting information.

## Overview of Class Assignments and Activities

Here is an example outline for a semester with two 75-minute class meetings per week, with due dates for game-related homeworks shown. Important features are:

- The gamebook reading is assigned well before the in-class game preparation starts
- Signup for topics is given some time, since student absences can leave gaps in the list and these need time to be filled in.
- For the second preparation day, it is very helpful to be in a computer lab so all students can work on spreadsheets.
- Some topics not important to the game are put between the preparation week and the role-playing week, to give students time to put together their numbers and write articles and rebuttal articles.
- Opinion article submissions run in 2 rounds: first, one person in each faction writes what their proposal is, one topic per person. These are turned in/distributed to everyone. Then another person in each faction writes a rebuttal to what the other factions said on their topic. If a student fails to submit an article during round 1, then the student who is supposed to rebut it in round 2 must imagine what the other side would have proposed; perhaps the GameMaster should help with this.
- We avoid running the game during the last week of class, since students are often distracted with other classes during that time.
- This outline assumes that only direct-proportion taxes are allowed. Previous attempts to run the game that allow for piecewise-linear taxes (e.g. a 2% tax on incomes over \$1000) seemed to keep students from seeing the big picture. In this outline, these more complicated taxes are introduced after the game is over.

Class Day #	Topic
1	Introduction
2	Intro to Excel
3	Estimation
4	Big Numbers
5	Proper Comparisons
6	Direct Proportions
7	Percents

- 8 exam
- 9 Inflation
- 10 Inflation
- 11 Inverse Proportions
- 12 Linear functions
- 13 Excel: Compound Interest
- 14 Probability
- 15 Expected value
- 16 exam ; Gamebook reading assigned afterwards
- 17 Insurance, Histograms ; factions assigned, topic signup starts
- 18 Mean, Median, capitation tax
- 19 game prep
- 20 game prep in Computer Lab
- 21 Association/Correlation ; team coordinating spreadsheets due
- 22 Association/Correlation ; first round of opinion articles due & shared
- 23 How Loans Work ; 2<sup>nd</sup> round of opinion articles due & shared
- 24 Game day 1
- 25 Game day 2
- 26 Piecewise Linear ; follow-up articles due
- 27 Progressive, Regressive, Income Tax
- 28 Goals and Interpretations of Probability

See below for details of what each class day of the preparation and role-playing days contains.

## What To Do Before the Game Begins

The first decision to make is how many topics to use, based on your class size. Typically, there are about 2 people per topic in each of the 3 factions. A class with 24 people would then be suited to using 4 topics, and a class with 30 people would use 5 topics. A class with 36 people would still use 5 topics (since those are the only ones written for the game) but could allocate more people to the most difficult topic, pensions. For class sizes that are not multiples of 6, round to the nearest multiple of 6. If the class size is rather small, more topics can be cut. For larger classes, consider having 3 people in each faction work on each topic (4 topics, 3 people each, 3 factions is 36 people; 5 topics would be 45 people), though at that point it is nearly impossible for everyone to get a chance to speak during game sessions. You might consider adding a day of game play in that case.

The second decision is faction/role assignments. One possible strategy is random assignment for factions, and then picking leaders within each resulting faction. A more reliable way to achieve balanced factions is to rank students according to their grade so far in the class, then proceed to do a “draft” much like major sporting leagues do. For example,

Rank	Name	Faction
1	Smith, J	A
2	Martinez, G	B
3	Washington, M	C
4	Gali, B	C
5	Rayyan, A	B
6	Agui, L	A
7	Ellis, A	A
9	Jones, S	B

That is, the sequence is ABCCBAABCCBA, etc. This sequence is more fair than ABCABCABC... . Once the class roster is split into 3 teams, you may decide which faction is A, which is B, and which is C according to who would make a good Eleanor Roosevelt, for example (could be a male or female student). If you have something other than a nice multiple of 3, you should allocate equal numbers to the two extreme parties; for example, 25 students would be split into 8 New Deal, 8 Conservative, 9 Center while 26 students would be split into 9 New

Deal, 9 Conservative, 8 Center. Students often question how team assignments were made, and they are generally happy when the above system is described (though of course you do not publish which student was at which rank). You might also want to check for gender or racial balance in the resulting teams, and make swaps if needed, before publishing the assignments.

Another thing to do is consider how much of the economic data from 1935 from the non-public instructors' guide you want to release to the class. You might release everything to everyone, or parcel out data according to which topics people have signed up for, and possibly even give some data items to one side and other items to another side. When you release data, please do it via email rather than posting it publicly on the web, so that other instructors running the game have a better chance of routing data to students the way they want.

### Writing Requirements

This game requires that all students complete two writing assignments (one before the game sessions and one after), though often the faction leaders are excused from the second assignment to compensate for their increased responsibilities leading up to the game days. The game book specifies that opinion articles are usually between 500 and 750 words, but instructors should feel free to modify this requirement if needed.

The instructor should explain the procedures for posting papers on the class web site. The instructor should also announce a policy for when papers are to be posted. The designers recommend that students be obliged to post their paper on the class web site by midnight of the day it was presented; this means that most students can present their arguments in class without providing the other side with advance knowledge of what they will say; but it also provides those who wish to rebut the argument with an opportunity to cite the paper in their own paper for the next class session. Ideally, students who are obliged to give a lecture during the first game session will turn in a hard copy of the paper to the instructor immediately following their presentation and will post it online before midnight that day. Whatever the posting rules, however, they should be made explicit.

### Grading

Faculty should include on the syllabus whatever grading policy they wish. The game designers recommend, however, that the written assignments constitute two-thirds of the final grade, and class participation, one-third. Moreover, it is further recommended that students who are adjudged to be "winners" of the game receive a one-half grade bonus for the class participation portion of their grade: that is, a B- would be increased to a B. If, as the designers recommend, class participation counts only one-third of a student's total game grade, the half-grade victory bonus is so inconsequential as to have little if any effect on any student's grade. Moreover, a student who excels in class participation will likely receive an A for class participation; and a student who does very little will likely receive a poor grade; the half grade bonus (D becomes D+) creates no unfair disparity.

But while the class participation bonus has little effect on grading, it serves several important functions for the game: first, it provides a reason for faction members to meet initially ("None of us knows each other, and we've got to get together this weekend to sort things out; our grade depends on it!"); second, it helps force students to hold to their assigned role even when students find it repugnant or difficult: Instructor to recalcitrant student: "I know that you personally

disagree with the Inquisitors; but you are obliged to play a role, and understand and articulate views that may be inimical to your personal values; if you don't do this, however, you will likely lose the game, thereby denying yourself and members of your faction the possibility of the winner's bonus"; and third, it legitimates what can be derided as a nerdy interest in pursuing class activities during leisure time ("Yes, I KNOW there's a big party on Saturday. But the Conservatives have torn us to shreds so far; we HAVE to meet to come up with a rebuttal this weekend, or else our grade will suffer."

### **Student Absences**

Depending on the school, student absences may be more or less of a problem. The usual rules are: an absent member cannot vote. There is no proxy voting. Thus, the faction loses that vote and is at a disadvantage. This increases peer pressure to attend class. Missing Congressmen have "caught tuberculosis" or "are delayed in a train wreck". If a student has an excused absence (military duty, childbirth, etc.) consider allowing a make-up writing assignment, such as Medicare/Medicaid in 1965, "Obamacare", or a report on other countries' social insurance systems.

### **"INTRODUCTION TO THE COURSE" Document**

In addition to distributing the class syllabus, instructors could provide copies of an "Introduction to the Course," a general explanation of "Reacting" for students, though this is less important for a short game than it is for some of the longer games. This can be found at public Reacting site, <http://www.barnard.edu/reacting> . Click on "Curriculum" and select "Pedagogical Introduction." The text can be copied and pasted into faculty files. Faculty are free to modify the syllabi and "Introduction" as suits their purposes

## **Set-Up Classes (1 week)**

Before the preparatory classes begin, decide on role/faction assignments and inform students of them, either via email or in class, or preferably both. It is also good to distribute the topic sign-up sheets before the preparatory classes start, but below we assume they are being done during the preparatory classes.

The instructor will probably want to reserve a computer lab for the second half of the week.

Bring to class:

- Photocopies of the Reading Quiz
- Photocopies of Pensions Worksheet 1
- Copy of the gamebook, to point things out to students
- Roster of who is in which group
- Sign-up sheets for topics, one for each faction (see below; Eleanor must sign up for health care)

It often helps to have students sit in factions during the two game preparation days—perhaps to the extent of having the New Dealers sit on the left side of the classroom, the Conservatives on the right side, and the Center faction in the center. Many students do not know the history of the political terms “left” and “right” as actual seating locations.

## Initial Remarks

The instructor might ask for questions, but the fact is that students won’t comprehend how the class functions until it begins. The main points to convey during the initial questions are that:

Students will run the game sessions themselves; after the first three “setup classes,” your role will be advisory—and judicial; that is, you will step in occasionally to make rulings;

The class is conceived as a “game,” with winners and losers, with a small grade bonus for winners: the recommended bonus is to give all “winners” (members of a winning faction) a half grade bonus to their class participation grade. Students may bristle at this point, so faculty should ensure them that some students who “lose” the game may receive an “A” in class participation, just as some students who win may receive “F”—or, say, F+. This may be an opportunity to reiterate a major point: successful papers and in-class presentations will show a deep mastery of the arguments and numbers.

Reiterate: We are not aiming to re-create the outcome of the 1935 debate. It is fine if the entire new bill fails, or if more programs are created than what really happened in 1935, as long as the results are based on sound numbers and arguments.

Also remind students that since they are all US Congressmen in 1935, they are all men (except Eleanor Roosevelt, of course) and deserve to be referred to as “Mr.” or “Representative” or “Congressman” (students will occasionally slip and say Senator; this mistake may/should be ignored). Also, all characters are reasonably rich, and white. A note on language: while historical accuracy is generally good, our main exception is that we avoid using the offensive racial terms that were used in 1935.

## Time outline:

(assumes two 75-minute classes or three 50-minute classes; allows some slack time)

- 10 min: Reading Quiz
- 10 min: Philosophies of the Two Parties (What Liberals Want, etc.)
- 10 min: reminder of previous math topics (direct proportions, percents, insurance, etc.)
- 20 min: Pensions worksheet 1 (in factions)
- 5 min: Pensions worksheet 1 answers

- 10 min: Capitation Tax worksheet (in factions)

Computer lab:

- 20 min: Intro to the Data Spreadsheet
- 40 min: Saving A Little Each Year sheet
- 10 min: Advice on writing opinion articles

At the end of the first preparation day, the instructor should receive a copy of each topic sign-up sheet from the faction leaders, as a backup. The faction leaders should bring back the sheets the next day in case some class members were absent.

## Interlude

Between the preparation week and the game days, we suggest a week and a half of class sessions on mathematical topics that are not important for the game. This gives students time to organize their numbers as a faction, and write their opinion articles.

Before the game days begin, remind students about

- The order of topics
- The need to bring a presentation, either electronic or on paper for use with a document camera, so that numbers and language may be displayed for everyone to see
- The need to bring laptops to class, with spreadsheets pre-loaded.

## Game Days

The instructor should bring to class:

- Copy of the gamebook
- Roster (alphabetic by student last name)
- Completed Sign-up sheets for topics, one for each faction, in case some students forgot their topics.
- A laptop for use as the official congressional “slide projector”, and as a place for the draft bill to be summarized as it is created.

The agenda for each topic is: the Chairman announces the topic, and calls on one faction to present first, then another, then the last. To avoid much backlash, the Chairman would be wise to rotate which faction goes first, but it is up to his discretion. The pair or triplet of people that worked on the topic for a faction should come up to the front together to present.

After each topic is discussed, the Chairman may decide what goes into the draft bill. He might call for a quick vote, at his discretion. Such votes should usually be done in the open rather than by secret ballot, because secret ballots take a long time to tally. The class should be reminded that there will be a mandatory final up-or-down roll-call vote on the entire draft bill at the very

end. Thus it is possible that the New Dealers seem to be getting everything they want in the bill, only to see it fail at the last minute if the Centrists balk.

To do the final roll-call vote, the chairman reads each name from the alphabetic roster and writes down their verbal vote (aye or nay): “Mr. Aagard?” “Nay.” “Mr. Abraham” “Aye.” ... etc. then tallies up the votes and announces the result. The drama is heightened if the roster is visible on the projection screen, either on a spreadsheet or on a document camera. A tie will probably not happen, because the center should vote as a block, but if it does, the real US congressional rules say that the measure fails rather than passes. During the post-mortem, the instructor should remind the students about their second writing assignment, where they explain what happened in class, what the draft law contained (whether it passed or not), and why they voted the way they did. The instructor will also email the final draft law out to the students almost immediately after class, so they may start writing their articles.

If you decide to have 4 topics due to a smaller class size:

- 75-minute class session 1:
  - 15 minutes of faction meeting
  - 15 minutes of Disability Insurance
  - 15 minutes of faction meeting
  - 15 minutes of Pensions
  - 15 minutes of faction meeting/slack time buffer
- 75-minute class session 2:
  - 15 minutes of faction meeting
  - 15 minutes of Unemployment Insurance
  - 15 minutes of faction meeting
  - 15 minutes of Health Care
  - 5 minutes of closing statements & vote
  - 10 minutes of Post-Mortem

If you decide to have 5 topics due to a larger class size:

- 75-minute class session 1:

- 10 minutes of faction meeting
  - 10 minutes of Disability Insurance
  - 10 minutes of faction meeting
  - 15 minutes of Pensions
  - 10 minutes of faction meeting
  - 10 minutes of Orphans & Widows
  - 10 minutes of faction meeting/slack time buffer
- 75-minute class session 2:
    - 15 minutes of faction meeting
    - 15 minutes of Unemployment Insurance
    - 15 minutes of faction meeting
    - 15 minutes of Health Care
    - 5 minutes of closing statements & vote
    - 10 minutes of Post-Mortem

Here is the reasoning for this suggested ordering of topics:

- 3 topics are “easy” and all similar: Disability, unemployment, orphans & widows
- Health Care is somewhat similar to those, if done as a universal plan
- Pensions are the hardest, but most important to the game (the way it really was in 1935)
- Start easy, then do important topic, then easy again, then hard
- Suggest agenda, but allow Chairman to change it.

## Textbook Alignment

BB = Bennett and Briggs, “Using & Understanding Mathematics”, 5<sup>th</sup> edition

SS = Sevilla and Somers, “Quantitative Reasoning”, 1<sup>st</sup> edition

FAPP=For All Practical Purposes, 7<sup>th</sup> edition

BM = Bolker and Mast, “Common Sense Mathematics”

Optional topics are shown in light gray.

	BB	SS	FAPP	BM
Big Numbers & Scientific Notation: Thousand, Million, Billion, (Trillion)	3B	7	??	1,2
Fermi-style estimation	3B	7	??	1
Putting Numbers in Context	3B	??	??	1
Direct and Inverse Proportions	??	5	??	3.1
Percents, percentage points	3A	1	18	3
Compound Interest/Saving a Little Each Year	4B/C, 8B	9	22	9,10
Histograms/Income & Age distributions	5C	1	5,23	6
Probability, Expected Value, Insurance	7A/C	18,21	8	11
Piecewise Linear functions, “Flat” tax w/exemption, progressive tax	6E	5	??	7.7
Mean, Median, Skewness	6A	16	5	6
Inflation and CPI	3D	8	21	4
Linear Regression	5E	A6.2	6	8

## Topic Sign-Up Sheet (2 people per topic)

Faction: \_\_\_\_\_

Note: you will need to exchange whole spreadsheets and documents, so you won't be able to do all of your interactions simply via texting.

For the two extreme factions: The person in the #1 slot should focus on what positive arguments or proposals the faction wants to make. The person in the #2 slot should focus on predicting what the other side will say, and then rebutting those arguments.

For the center faction: #1 should focus on what the Conservatives will say, and the good and bad points of those arguments. #2 should do the same for the New Dealers. Together they should discuss what sort of compromises might work.

Topic	Name	Email
Disability #1		
Disability #2		
Pensions #1		
Pensions #2		
Orphans&Widows #1		
Orphans&Widows #2		
Unemployment #1		
Unemployment #2		
Health Care #1		
Health Care #2		

## Topic Sign-Up Sheet (3 people per topic)

Faction: \_\_\_\_\_

Note: you will need to exchange whole spreadsheets and documents, so you won't be able to do all of your interactions simply via texting.

For the two extreme factions: The person in the #1 slot should focus on what positive arguments or proposals the faction wants to make. The person in the #2 slot should focus on predicting what the other side will say, and then rebutting those arguments. The #3 slot should focus on what sorts of compromise might be proposed, and what would be acceptable.

For the center faction: #1 should focus on what the Conservatives will say, and the good and bad points of those arguments. #2 should do the same for the New Dealers. #3 should focus on what sort of compromises might work.

Topic	Name	Email
Disability #1		
Disability #2		
Disability #3		
Pensions #1		
Pensions #2		
Pensions #3		
Orphans&Widows #1		
Orphans&Widows #2		
Orphans&Widows #3		
Unemployment #1		
Unemployment #2		
Unemployment #3		
Health Care #1		
Health Care #2		
Health Care #3		