

If you are not in the classroom with me, you must be on Zoom with both your camera and microphone on.

Do NOT write your name anywhere. (Canvas will tell me who turned in the exam.) Take pictures of your answers and use your own app or one of the pages I have links to on my home page to create a PDF for each answer which requires an upload. If it is large, resize it to A4. Upload that to Canvas. Upload each answer as a separate file with that question. Failure to follow directions will cost you one point. People with Apple products may need to use CamScanner app.

You are not allowed to use your books, notes, the internet, or other people when taking this test.

You can use the internet to access Canvas and to convert your answers to PDF files. Nothing else.

If you run out of time or lose your internet connection, you can do a second submission. You do NOT have to redo the questions you already did. I will be able to see every submission. If you have problems, you can always contact me via Zoom or e-mail.

Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 160 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I have it set up to only give you an hour and a half.

1) (12 points) There are many economic reasons for having a government. For EITHER the reason in Part A OR the reason in Part B, state what it means and explain why it is an economic reason for government. Note that the book says one of them is a non-economic reason.

However, I argued it is an economic reason. I want the economic reason.

- A) promote competition
- B) income redistribution

2) (12 points) Every statistic has problems with how it is calculated, which make it less useful than we would like. For EITHER GDP OR the unemployment rate, what are two problems with it? Briefly explain why they are problems.

3) (14 points) Answer EITHER Part A OR Part B.

A) Suppose you had calculated NI and wanted to calculate PI. What would you need to add and subtract? Explain why you would add and subtract those variables.

B) For each of the following, determine what happens to GDP. If GDP changes, then tell me which part and why that part. If a number does not change GDP, explain why it does not. You pay \$5000 for a used car which cost the dealer \$3000. You buy \$6000 for stock in Alphabet (Google's parent company) and pay \$10 worth of commissions.

4) (14 points) Answer EITHER Part A OR Part B.

A) Suppose that a country has 1000 residents of age. 530 residents have full-time jobs. 100 residents have part-time jobs. 70 residents do not have a job, but are looking for a job. 40 residents do not have a job and have stopped looking for a job. 80 are stay-at-home parents and the rest are retired. Calculate the labor force participation rate and the unemployment rate. Show all work and briefly explain how you did each calculation.

B) Suppose that at the beginning of the year the CPI was 700 and at the end of the year it was 728. What was the inflation rate? Show all work. If the expected inflation had been 6% at the beginning of the year, then name two groups of people who were hurt by the inflation. Explain how they were hurt.

5) (16 points) Answer EITHER Part A OR Part B.

A) What is the long-term problem facing Social Security? What are the two trends which mean the problem will get worse for at least a few decades? One proposal to reduce the problem is to means test benefits. How would that reduce the problem? If you were President, would you include that as part of a bundle of solutions? Explain your logic.

B) What is the long-term problem facing Social Security? What are the two trends which mean the problem will get worse for at least a few decades? One proposal to reduce the problem is to raise the Social Security tax. How would that reduce the problem? If you were President, would you include that as part of a bundle of solutions? Explain your logic.

6) (16 points) Answer EITHER Part A OR Part B.

A) Suppose that a project costs \$1000. If completed, it would allow the firm to sell 1 item to each of 400 people at a profit of \$4 per item. There is a negative externality which affects 500 people at a cost of \$1 per person. Should this project be done? Would the market provide it? Would the government provide it? Show all work for each calculation and briefly explain what you did.

B) Suppose that a project costs \$2000. If completed, it would allow the firm to sell 1 item to each of 300 people at a profit of \$6 per item. There is a positive externality which affects 200 people at a benefit of \$2 per person. Should this project be done? Would the market provide it? Would the government provide it? Show all work for each calculation and briefly explain what you did.

7) (16 points) Answer EITHER Part A OR Part B.

A) Explain, in general terms which apply to all taxes, how an increase in a tax rate could result in less tax revenue. Then give a numerical example of an excise tax which shows how it can happen.

B) Explain why the sales tax is often regressive. Use a numerical example in your explanation.