

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

- 1) (10 points) Using the data at <https://fred.stlouisfed.org/data/GDP.txt>, calculate the average growth rate of the GDP for the USA from 1947 through 2022. (I did not include 2023 because the data for the 4<sup>th</sup> quarter is not available. This makes  $t$  an integer. The dates on each data point are the first day of each quarter.) Show all work and briefly explain what you did.
- 2) (10 points) According to the article, <https://www.reuters.com/markets/europe/italy-inflation-could-drop-34-by-year-end-minister-says-2023-10-03/>, what is the inflation rate in Italy? How long would it take for prices to double at that rate? Show all work. You might find this page interesting <https://www.statista.com/statistics/270489/inflation-rate-in-italy/>, because it has the inflation rate for Italy up through 2028.
- 3) (10 points) According to <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=AR>, the GDP of Argentina grew at a 5% rate in 2022. According to <https://www.macrotrends.net/countries/ARG/argentina/population-growth-rate>, Argentina's population grew at .6% in 2022. Suppose that their capital grew at 5% in 2022. What was the growth rate of total factor productivity? Show all work.
- 4) (15 points) How does a country having an open economy, help the economy grow?
- 5) (15 points) How does investment in healthcare help the economy to grow?
- 6) (20 points) One of the characteristics of a rapidly growing economy is “political stability”. Explain why that is important. Does that mean a country like the USA (which changes who is in charge every 4 or 8 years, and typically changes the party in charge about once a decade) or a country with a dictator like Bangladesh, is more likely to have fast growth? Explain your logic, looking only at that one aspect of the economy.
- 7) (20 points) One of the characteristics of a rapidly growing economy is “effective government institutions like enforcement of property rights”. Explain why that is important. Does that mean a country like the USA (where the government cannot take your property without proper compensation) or a country like Venezuela (where the government can confiscate your property at will) is more likely to have fast growth? Explain your logic, looking only at that one aspect of the economy.