Homework 1, ECON 2300, Darren Grant. We will do the problems above the line during class; please turn in the problems below the line on the assigned class day. Those will be reviewed in class and graded. For what you turn in, use your own paper, not this sheet, staple multiple pages together and remove any “nurdles” that you get when you tear paper out of a spiral notebook. Note also: homeworks *must* be turned in on time! Even if you are just late to class, I will not accept late homework! You can always turn it in *early* by sliding it under my office door.

In addition to these problems, end-of-chapter problems from the textbook can be used for practice, along with some ungraded, optional quizzes that I have placed on Blackboard.

1. Which one of the following markets is closest to perfect competition? Which one is furthest from it? Why?
   A) Peanut Butter
   B) Hotels
   C) Hospitals
   D) Landscaping

2. There are 5,000 parking spaces on SHSU's campus. Demand for parking spaces is higher during the day, when the lots are full, than at night, when you couldn't fill up the parking lots if you wanted to. Day parking privileges are granted by buying a sticker, which costs $200; anyone can park at night.

   A) On a single graph, draw two demand curves for parking, one for daytime, one for night. Identify on your graph the number of parking spots on campus and the $200 price. Make sure your graph is consistent with the facts above, that the parking lots are full (but not overflowing) during the day, but could never be filled up at night.

   B) If the price of parking stickers went down to say, $100 per semester instead of $200, what would it be likely out in the parking lots during the day; that is, what would be the consequences? Explain in words, and illustrate on the graph you have drawn.

3. (Mankiw, modified) Illustrate how each of the following events affect price and quantity in the market for minivans, using supply/demand graphs.

   A) There is a baby boom.
   B) Steel prices increase.
   C) The price of SUVs falls.
   D) Stock-market gains increase people's wealth.
   E) The minivan market cannot really be considered perfectly competitive market. Explain why.

4. Price supports keep the price of peanuts far above the free market price. Quotas are used to prevent overproduction (beyond that which consumers are willing to purchase). Illustrate this on a supply/demand graph. Indicate the supported price on your graph, the quantity produced and sold at that price, and the price and quantity that would prevail without price supports.

5. Which of the following markets are not perfectly competitive? (Choose all that apply.) Why not?

   A) Wheat
   B) Paper
   C) Art (like paintings, sculpture)
   D) Unskilled Workers to work in Fast Food Restaurants
   E) Loans (money to be lent)
   F) Cellular Service
6. True or False? Answer and briefly explain for each.

A) A market can be perfectly competitive even if government requires that workers must be paid time and a half for overtime.

B) In perfectly competitive markets, firms choose how much they will produce based on how much they think people will want to buy.

C) When prices go up, that must mean that people are buying more.

D) The perfectly competitive market always seeks the price that equates the amount supplied with the amount demanded.

7. Identify three things government does to facilitate the smooth operation of the free market.

8. Answer these questions about price controls. Every answer should involve price controls!

A) What are the two types of price controls?

B) There is a persistent surplus of product X in the marketplace. The market is competitive. What has happened?

C) People are buying product Y on the black market for much higher prices than the price that is listed in the store. Why?

D) When do price controls increase product quality, and when do they hurt product quality?

9. Illustrate, for each situation, the effect of the “event” on price and quantity, using a supply/demand graph.

A) An decrease in income, on the market for gold.

B) A cost-saving technology improvement, on the market for computers.

C) A flood (of water), on the market for wheat.

D) Summer (vacation time), on the market for gasoline.

E) An increase in the price of electricity, on the market for steel.

10. The deregulation of the trucking industry around 1980 dramatically lowered the transportation costs of many goods producers, particularly manufacturers; it was cheaper to transport in the raw materials, and it was cheaper to transport out the final product. How did this affect the price and quantity of manufactured goods in the competitive market? Illustrate on a supply/demand graph. Who wins: manufacturers, consumers, or both?

11. (Case and Fair, modified) One way to increase the amount of housing available to low-income households is simply for the government to build it and rent it out at market rates (public housing). An alternative is to provide low-income households with vouchers that can be used like cash in renting housing supplied by the private market (not by government). Illustrate the effect of each policy on the price and quantity of housing, using (separate) supply/demand graphs.
12. (Case and Fair, modified) The U.S. government administers two programs that affect the market for cigarettes. Media campaigns and labeling requirements are aimed at making the public aware of the health dangers of cigarettes. At the same time, the Department of Agriculture maintains a program which limits the amount of land that can be devoted to growing tobacco. Are these two programs at odds with respect to the goal of reducing cigarette consumption? Illustrate on a supply/demand graph.

13. Illustrate, for each situation, the effect of the “event” on price and quantity, using a supply/demand graph.

A) A machine is developed that harvests tomatoes mechanically, on the market for tomatoes.
B) An economic expansion leads to a boom in housing construction, on the housing market.
C) Oil is discovered in Alaska, on the oil market.
D) An increase in the price of mustard, on the market for grocery-store hot dogs.

14. Explain the fundamental rationale for leaving the free, competitive market alone (i.e., no government intervention).

15. Illustrate the effect of rent controls on price and quantity in the rental housing market, using a supply/demand graph. Give three side-effects of rent controls.

16. Use the following information to answer these questions. Columns One and Two contain quantities (in arbitrary units).

<table>
<thead>
<tr>
<th>Price</th>
<th>Column One</th>
<th>Column Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>$8</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>$7</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>$6</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>$5</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>$4</td>
<td>16</td>
<td>10</td>
</tr>
</tbody>
</table>

A) Which column gives the demand relationship, and which gives the supply relationship? Explain.

B) What is the equilibrium price? Explain.

C) A price _________ (floor, ceiling) set at a price of $____ will lead to a surplus of 2 units.
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Please write out the answers on your own sheets of paper (not the original assignment sheet), staple multiple pages together, and remove any “nurdles” you get from tearing paper out of a spiral notebook. Your work must be turned in on time, that is, at the beginning of the class period that it is due. I don’t accept work via e-mail, but you can turn in your homework in advance by sliding it under my office door.

1. (Mankiw, revised) Sheridan and Tammany are roommates. Sheridan takes 2 hours to brew a gallon of root beer and 4 hours to make a pizza. Tammany takes 4 hours to brew a gallon of root beer and 6 hours to make a pizza.

A) What is opportunity cost of pizza, in terms of root beer? Who will specialize in pizza production?

B) Which person has absolute advantage in pizza? Which person has comparative advantage in pizza?

C) If Sheridan and Tammany each work a 12 hour day, what do their PPF’s look like?

2. Before NAFTA, it was hard to sell Mexican avocados in the U.S. After NAFTA, it was easy.

A) Using supply/demand graphs, illustrate the effect of NAFTA on the price and quantity of avocados from the U.S., and from Mexico.

B) Who, of the following, benefits from free trade in avocados? 1) U.S. avocado producers, 2) U.S. avocado consumers, 3) U.S. avocado workers, 4) Mexican avocado producers, 5) Mexican avocado consumers, 6) Mexican avocado workers.

C) As NAFTA removes trade barriers, which of the following happens? Identify all that apply: 1) the U.S. as a whole benefits, 2) Mexico, as a whole benefits, 3) more total stuff is produced, 4) some U.S. avocado growers go out of business, 5) everyone in the U.S. benefits.

3. (Mankiw) Which groups would be happy if the U.S. dollar appreciated?
   a) Dutch pension funds holding U.S. government bonds
   b) U.S. manufacturing industries
   c) Australian tourists planning a trip to the U.S.
   d) American retirees purchasing a retirement property in Costa Rica

4. The U.S. currently has negative net exports.

A) How do our imports compare to our exports? Do we have a trade surplus or a trade deficit?

B) Is our “current account” positive or negative? According to the balance of payments, is our “capital account” positive or negative?

C) Do other countries invest more in the U.S. than we do in other countries? Choose one answer and explain.
   1) they invest in us more than we invest in them
   2) we invest in them more than they invest in us
   3) the amount of investment is equal, because of equilibrium

5. Go to amazon.com, and look up the price of a brand new copy of the Best of the Mavericks CD. Then go to amazon.mx and do the same thing. Using the current exchange rate between the U.S. Dollar and the Mexican Peso, does purchasing price parity apply? Show your work.

6. The three largest countries in North America are the United States, Canada, and Mexico. Listed
below are the amounts (in bushels) of Wheat Germ and Oat Bran each country can produce on one acre of land, if they devote it to the production of that commodity.

<table>
<thead>
<tr>
<th></th>
<th>Wheat Germ</th>
<th>Oat Bran</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>Canada</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>Mexico</td>
<td>70</td>
<td>350</td>
</tr>
</tbody>
</table>

A) Draw the PPF’s for each country (three PPF’s).

B) Plot the point (50,150) on the United States’ graph. Is this point on the PPF or not?

C) During the talks for NAFTA, the trade agreement, the three countries agree that one of them should specialize in Wheat Germ production. Which country should it be? Show your work.

D) Which has a higher price, a bushel of Wheat Germ or a bushel of Oat Bran? Why?

E) Countries do best when they specialize in producing those product(s):
   1) which they can produce more of than other countries can.
   2) which they cannot produce as much of as other countries can.
   3) which they can produce at a lower opportunity cost than other countries can.
   4) which they can produce at a higher opportunity cost than other countries can.

7. (Mankiw) How would each of the following transactions affect U.S. trade? Answer with “It (increases/decreases) (exports/imports)” followed by a brief explanation.
   1) An American economics professor spends the summer with his wife in Montreal.
   2) Students in Paris flock to see the latest Hollywood blockbuster.
   3) Your American uncle buys a new Volvo, produced in Sweden.
   4) Honda begins producing its cars in the U.S. instead of sending them over from Japan.

8. The “Minnow” has been shipwrecked on an uncharted desert island!! The table below tells you how many fish or coconuts each castaway could catch/find in a hour of work.

<table>
<thead>
<tr>
<th></th>
<th>Fish Caught in one hour of work</th>
<th>Coconuts Found in one hour of work</th>
<th>Opp. Cost of 1 Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilligan</td>
<td>5</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Ginger</td>
<td>8</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Mary Ann</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>The Professor</td>
<td>6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>The Skipper</td>
<td>7</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
A) In order to produce coconuts and fish most efficiently, should each castaway make some fish and some coconuts, or should people specialize in fish or coconuts?

B) Determine the opportunity cost of catching one fish, for each person, and fill them in the table. Is it better for the person with the lowest opportunity cost to make fish or coconuts?

C) Who has comparative advantage in the production of fish? Who has absolute advantage?

9. What effect would the following have on the value of the dollar? Illustrate on three separate supply/demand graphs.

A) Consumer optimism leads people in the U.S. to want to buy more imported leather goods.

B) The interest rate falls in the United States.

C) Governmental instability in Russia causes Russians to wish to take their invested money out of that country and invest it in the U.S. instead.

D) When the value of the dollar goes up, what happens to the yen/dollar exchange rate? Does it take more or less yen to buy a dollar?

10. Go to amazon.com, and look up the price of a brand new copy of the CD *Yer Favourites* by The Tragically Hip, Canada’s favorite rock band. Then go to amazon.ca and look up the same thing. Then, go look up the current exchange rate between the U.S. Dollar and the Canadian Dollar, and determine if purchasing price parity applies. Show your work.

11. Saudi Arabia exports a lot of oil, and its currency is the riyal. What was the likely effect of Covid lockdowns on the riyal/dollar exchange rate? Support your answer with a supply/demand graph. Did Saudi Arabia’s trade balance shift more toward a surplus or toward a deficit?

12. Currently imports of sugar from the Caribbean are restricted by the U.S. government. Much of the sugar produced within the U.S. is grown in Florida and Louisiana and processed there and elsewhere. Removing these import restrictions would allow free trade between the U.S. and the Caribbean in sugar.

A) Based on this information, which place has comparative advantage in sugar production: the U.S. or the Caribbean? Which place’s sugar supply curve is further to the right?

B) Using a supply/demand graph, illustrate the effect of removing these trade barriers on the price and quantity of sugar from the Caribbean.

C) Using a supply/demand graph, illustrate the effect of removing these trade barriers on the price and quantity of sugar from the U.S.

D) Who, of the following, would benefit from free trade in sugar? Identify all that apply: 1) U.S. sugar producers, 2) U.S. sugar consumers, 3) U.S. sugar workers, 4) Caribbean sugar producers, 5) Caribbean sugar consumers, 6) Caribbean sugar workers.
E) Which of the following statements are true? Identify all that apply:
   1) If the trade restrictions were removed, the U.S. would benefit, as a whole.
   2) If the trade restrictions were removed, the Caribbean would benefit, as a whole.
   3) If the trade restrictions were removed, more total stuff would be produced.
   4) Removing the trade restrictions could put some U.S. sugar growers out of business.
   5) The United States has comparative advantage in sugar production.
   6) The trade restrictions on sugar benefit everyone in the United States.

13. Since Covid, the American dollar has gotten weaker against the yen.

A) Based on this fact, which (if any) of the following are true? Identify any and all that apply:
   1) imports from Japan, into the United States, become cheaper
   2) the yen/dollar exchange rate goes up
   3) Americans travelling in Japan will be able to buy more
   4) the yen has depreciated

B) Which (if any) of the following would strengthen the dollar? Identify any and all that apply:
   1) A decrease in American interest rates
   2) A decrease in trade barriers in the United States
   3) Political instability in the United States

14. A Big Mac costs $5 in the United States and 75 rupees in India. If purchasing power parity holds, then what is the exchange rate between dollars and rupees? Show your work.
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1. Fill in the following table. 2015 is the base year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Nominal GDP</th>
<th>Price Index</th>
<th>Real GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>120</td>
<td>$16</td>
</tr>
<tr>
<td>2017</td>
<td>$18</td>
<td></td>
<td>$17</td>
</tr>
</tbody>
</table>

If the following table represented (approximately) the U.S. economy, then the figures would be in {hundreds, thousands, millions, billions, etc.}?

2. An analogy to unemployment at SHSU is when students can’t get the classes they want. In this spirit, give an analog to frictional unemployment, structural unemployment, and cyclical unemployment. Would a drop in tuition increase “unemployment” or decrease it?

3. Long Covid has affected a significant fraction of the U.S. labor force, making it hard for them to work. What is the effect of long Covid on the macroeconomy? Illustrate on an AS/AD graph, and indicate whether it is positive or negative affects on output, inflation, and the size of the labor force.

4. The federal reserve conducts open market operations, purchasing $1 million of Treasury bonds.

   A) Was money created or destroyed? What happened to interest rates?
   
   B) Is $1 million of Treasury bonds a lot?
      1) not really, total money supply is in the trillions
      2) yes it is, $1 million would add a material amount to the money supply

   C) Does this amount to fiscal policy or monetary policy?

   D) Show the effect of the open market operations on the macroeconomy, using an AS/AD graph. What happens to output and prices?

5. Country B is currently in an expansion which has lasted for some time. Its AS curve has the shape suggested by John M. Keynes.

   A) Draw an AS/AD graph for this country.

   Now the government undertakes expansionary fiscal policy.

   B) What does it mean to undertake expansionary fiscal policy? That is, what does the government do?
C) Draw the effects of the policy on the graph. Identify the new price level and output level on the graph.

D) Does inflation increase much in country B? Does unemployment decrease much in country B?

E) On balance, is the expansionary policy desirable or not?

6. In the crazy country of Grantonia, between 2015 and 2016, the CPI increased from 100 to 110, while real GDP increased from $500 Million to $505 Million.

A) What is nominal GDP in 2015?

B) What is nominal GDP in 2016?

C) What was inflation between 2015 and 2016?

7. What is “Gross” about GDP?

8. There are (at least) three different types of unemployment: frictional, structural, and cyclical. Briefly describe each. Then tell which kind of unemployment the following policies are most clearly directed at:
   1) Job-training assistance for workers displaced by NAFTA.
   2) The Dept. of Labor posts job listings and has a computer database where people can look up jobs they are qualified for.
   3) Expansionary monetary policy is used to help pull the economy out of a recession.

9. In a recession, what happens to real GDP, inflation, and unemployment? What about an expansion? Name one weakness (each) of the way economists measure output, unemployment, and inflation.

10. Are government deficits run by the Federal Reserve, or by some other government entity? Are deficits a form of monetary policy, fiscal policy, or neither?

11. How are the Natural Rate of Unemployment and Potential GDP related?

12. Do changes in the money supply typically have any effect on interest rates? If so, what? In late 2022, interest rates rose dramatically. What do you think happened to the money supply (that caused this to happen)?

13. Country A is mired in recession. Its AS curve has the shape suggested by John Keynes.

A) Draw an AS/AD graph for this country.

Now the government undertakes expansionary monetary policy.

B) How does the government undertake expansionary monetary policy? That is, what does it do?

C) Draw the effects of the policy on the graph. Identify output and the new price level on the graph.

D) Does inflation increase much in country A? Does unemployment decrease much in country A?

E) On balance, is the expansionary policy desirable or not?

14. In Marsupialland, the unemployment rate is currently 10%.
A) Is unemployment near the natural rate of unemployment? Why or why not?

B) Is there likely to be any cyclical unemployment? Why or why not?

C) Draw this situation on an AS/AD graph. Is the current equilibrium at potential GDP, or not?

15. In the 1950’s, it became practical for tourists to fly to islands in the South Pacific on vacation. Many of these islands are their own countries, such as Fiji or Tonga.

A) How would this development affect the macroeconomies of these island countries? Illustrate on an AS/AD graph, and indicate whether output, inflation, and unemployment will increase or decrease.

B) Of the four components of GDP, which do you think would increase the most. Why?