1. Which of the following actions should the Fed take to try and reduce unemployment? For each answer, explain why it is or isn’t appropriate for the Fed to do. Points are based on the explanation.

A. Buy government bonds. (1)

*This would be reasonable as it would increase the money supply and lower interest rates, making it easier for households and firms to borrow money.*

B. Lower wages. (1)

*This is not reasonable as the Fed doesn’t have the power to do this.*

C. Lower the prime rate. (1)

*This is not reasonable as the Fed doesn’t control the prime rate.*

D. Lower reserve requirements. (1)

*This would be a bad idea because, while it would increase the money supply, it would also destabilize banks.*

E. Reduce the money supply. (1)

*This would be a bad idea as it would lead to higher interest rates, which would make it more expensive for firms and households to borrow.*
2. Explain how a large sale of government bonds by the Federal Reserve will affect:

A. the bond market.

*It will increase the supply of bonds and drive the price of bonds down.*

B. interest rates.

*Because a sale of bonds will decrease the money supply it will raise interest rates.*

C. nominal GDP.

*A decrease in the money supply will reduce price levels and perhaps even real GDP, so nominal GDP will fall as well.*
3. When the central bank changes the money supply, it has two impacts on the AS/AD model. One is the effect of changing interest rates on AS/AD and the other is the effect of changing exchange rates (which change due to changing interest rates) on AS/AD. Do changing interest rates and changing exchange rates have the same impact on the AS/AD model, or do they work in opposite directions when the central bank changes the money supply? Explain.

They work in the same way.

Imagine that the money supply increases and interest rates fall as a result. Falling interest rates make it easier for firms and households to borrow, increasing aggregate demand. In addition, falling interest rates reduce the value of the currency in international money markets, meaning that a country’s exports become relatively less expensive, so exports will increase and imports will decrease, which will have the impact of increasing net exports and increasing aggregate demand.

4. The equation of exchange is the following:

\[ \%\Delta M + \%\Delta V = \%\Delta Y + \%\Delta P \]

where
- \(M\) is the money supply
- \(V\) is velocity
- \(Y\) is real GDP
- \(P\) is the price level

A. Define velocity.

Velocity is defined as nominal GDP divided by the money supply.

In other words, it is the average number of transactions a dollar takes part in over the course of a year.

B. If velocity is rising by 1% annually and nominal GDP is rising at 5% annually, how quickly is the money supply growing?

The money supply must be rising at 4% annually.

C. How has velocity in the U.S. changed over the last fifty years or so?

Velocity defined on M1 has risen while velocity defined on M2 has remained more constant.
5. One the first concepts we discussed was a production possibilities frontier.

A. Imagine a production possibilities frontier for bells and whisky. How would the frontier change if a new technology from Australia was introduced that allowed for greater production of bells?

*It would increase the maximum quantity of bells that could be produced without increasing the maximum quantity of whisky that could be produced.*

B. How is a production possibilities frontier like a Phillips curve?

*They both represent a set of options available to an economy, either a set of combinations of goods that can be produced or a set of unemployment/inflation combinations that can be chosen.*
6. Here’s the standard graph for equilibrium in international trade:

A. What will be the impact on the quantity exported and the price if supply in the importing country increases?

*Quantity exported will fall*

*Price will fall*

C. What will be the impact on the quantity exported and the price if demand in the exporting country decreases?

*Quantity exported will rise*

*Price will fall*
7. Describe what happens to each of the following macroeconomic statistics as a result of the indicated actions.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Fed Sells Bonds</th>
<th>Fed Buys Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Supply</td>
<td>Decreases</td>
<td>Increase</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>Price Levels</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Value of the Dollar</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>Net Exports</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
</tbody>
</table>

8. One of the all time great papers in economics described the use of cigarettes as commodity money in prisoner of war camps in World War II. The thing about cigarettes, and commodity money in general, is that it may be consumed as well as used as money.

A. What characteristics do cigarettes have that would make them good money?

*They are durable, easily identifiable, scarce and available in reasonably small units.*

B. On regular occasions the camps would receive deliveries of packages from the Red Cross that included cigarettes. What impact would these deliveries have on prices for other goods in the camps?

*There would be tremendous inflation as the money supply was temporarily increased.*
9. The monetarist view of the economy suggests that increased government borrowing leads to reduced private borrowing and reduced investment because of crowding out in credit markets.

A. Draw a picture of the market for credit that is consistent with the monetarist view of the economy.

Supply of credit is steep, so interest rates rise a lot

B. Draw a picture of the investment demand curve that is consistent with the monetarist view of the economy.
Investment demand is flat, or very interest sensitive
A rise in interest rates leads to a big fall in investment by firms
Multiple Choice Section
Circle the best answer to each question. One point each.

1. Which of the following fiscal and monetary moves will have the same effect as far as being expansionary or contractionary?
   A. Increase government spending and sell bonds.
   B. Decrease both government spending and the money supply.
   C. Decrease government spending and buy bonds.
   D. Reduce taxes and decrease the money supply.

2. When an economy’s PPF shifts out to reflect increased capacity to produce one of the two goods:
   A. The economy will choose to produce more of that good but not more of the other.
   B. The economy will choose to produce more of that good and less of the other.
   C. The potential production of the other good will fall due to the increased opportunity cost of production.
   D. The potential production of the other good will not change.

3. Which of the following will increase an economy’s opportunities for gains from trade?
   A. A larger set of trading partners.
   B. Tariffs imposed to protect domestic industries.
   C. A weak currency that will encourage exports and discourage imports.
   D. Quotas that will protect domestic jobs from unfair foreign competition.

4. Indexing Social Security benefits to changes in the consumer price index will:
   A. Make recipients better off over time if the basket of goods does not change.
   B. Assure that all recipients are able to buy next year what they bought this year.
   C. Make recipients better off if inflation is higher because the amount they receive will increase at a greater rate.

5. Which of the following are important policy tools of the Fed?
   A. The prime rate.
   B. Tax policy.
   C. Open market operations.
   D. All of the above.

6. Which of the following is most important to the growth of an economy?
   A. A good stock of natural resources.
   B. A large amount of available land per person.
   C. A quickly growing money supply.
   D. Good property rights and economic freedom.