AP® Macro Economics (Operational)
2004 Sample Student Responses

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1. \[ P_c + Q_c = \text{current price level} \]
   \[ Q_f = \text{full-employment output} \]
   \[ Q_f = \text{(potential GDP)} \]

2. **The government can buy bonds in the open-market.** (Expansionary monetary policy)
   By buying bonds, the government increases the flow of money in the economy, thus increasing the money supply. This reduces interest rates (\( I \rightarrow 0 \rightarrow I_f \)).

3. **Because the interest rate has decreased, investment is more profitable, and thus aggregate demand shifts right because investment \( I \) is a component of aggregate demand.

4. **See part a:**
   Aggregate demand shifts to the right, from \( AD_1 \) to \( AD_2 \), and price level increases from \( P_c \rightarrow P_2 \).

5. **Flexible prices and wages is a belief of the classical economists.** They believe that the longer people are out of work, the
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more easily they will accept lower wages because they need to work. Lower wages means the production costs have decreased, thus aggregate supply shifts to the right, decreasing price levels and increasing output in the short run.
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1. a. At full employment, the economy produces at GDP_1.

b. To restore full employment and get out of the recession, the open market operation that would be appropriate is to buy bonds, lower reserve requirements, and lower the discount rate.

c. The open market operations increase the money supply, shift S from S_1 to S_2. This action lowers the interest rate in the short run.

d. The decreased interest rate will increase the aggregate demand because it is cheaper to buy.

e. The lowered ir will shift aggregate demand from AD_1 to AD_2. This shift causes the output to increase from GDP_1 to GDP_2. The price level will also increase.
f. With no market operations taken, with flexible price and wages, the short run aggregate supply will decrease due to the unemployment problem. Also due to the decrease in workers, the output and price level will both drop.
(b) An open-market operation that could restore full employment in the short run is to buy bonds/securities.

(c) Interest rates would decrease.

(d) Aggregate demand would shift to the right because there is more money in circulation from the buying of bonds and the lower interest rates.

(e) See graph.

(f) If no policy actions were taken to address the unemployment problem it would end up fixing itself. That is what classical economists believe. Supply demand creates its own supply. If there is less unemployment, more people have more money to consume, therefore, pushing the demand higher to reach
full employment. Businesses need to keep up with the demand, so they hire more workers to keep the supply level steady. Once we have reached full employment, the price level and output increase.