1. Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(a) Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves, and show each of the following.

   (i) The current equilibrium real output and price level, labeled Y_1 and PL_1, respectively
   (ii) The full employment output, labeled Y_F

(b) Assume that consumer spending in Moneyland decreases from $110,000 to $100,000 as a result of a decrease in disposable income in Moneyland from $135,000 to $110,000.

   (i) Calculate the marginal propensity to consume in Moneyland. Show your work.
   (ii) Show the short-run effect of the decrease in consumer spending in Moneyland on your graph in part (a), labeling the new equilibrium real output and price level Y_2 and PL_2, respectively.

(c) Following the decrease in consumer spending, explain how the economy would adjust in the long run in the absence of any policy actions.

(d) The central bank of Moneyland is concerned about the short-run effects of the decrease in consumer spending on the broader economy and is considering taking action rather than waiting for the long-run adjustment process. Assuming the banking system in Moneyland has ample reserves, identify a specific monetary policy action the central bank of Moneyland would take to increase consumer spending.

(e) Draw a correctly labeled graph of the reserve market in Moneyland, and show the effect of the monetary policy action identified in part (d) on the policy rate.

(f) How would the change in the policy rate shown on your graph in part (e) affect each of the following in Moneyland in the short run?

   (i) The quantity of national savings
   (ii) Unemployment. Explain.

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Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

GO ON TO THE NEXT PAGE.

2. The table provided shows the quantity and price of food and clothing, the only two goods produced and consumed in the country of Maltrose, in year 1 and year 2. Assume that year 1 is the base year.

|	Year 1 Price	Year 1 Quantity	Year 2 Price	Year 2 Quantity
Food	$10	12	$13	10
Clothing	$5	16	$4	20

(a) Calculate the nominal GDP in year 2. Show your work.

(b) Calculate the GDP deflator in year 2. Show your work.

(c) What was the numerical value of the inflation rate from year 1 to year 2 ?

(d) Assuming that the expected inflation rate between years 1 and 2 was 3%, were each of the following better off, worse off, or unaffected as a result of the economic conditions between year 1 and year 2 ?

    (i) People living on a fixed income
   (ii) Borrowers with fixed interest-rate loans. Explain.

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Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 1: Long   10 points

(a)   Draw a correctly labeled aggregate demand–aggregate supply graph that shows PL_1 and   **1 point**
Y_1 at the intersection of the aggregate demand (AD) and short-run aggregate supply
(SRAS) curves.
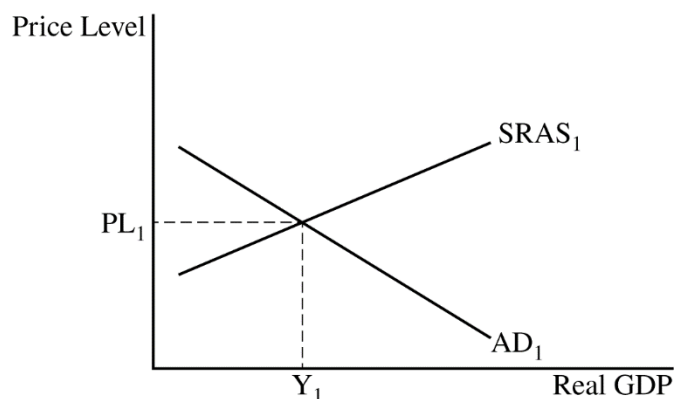
For the second point, the graph must show a vertical long-run aggregate supply (LRAS)   **1 point**
curve at equilibrium real output $Y_1 = Y_F$.
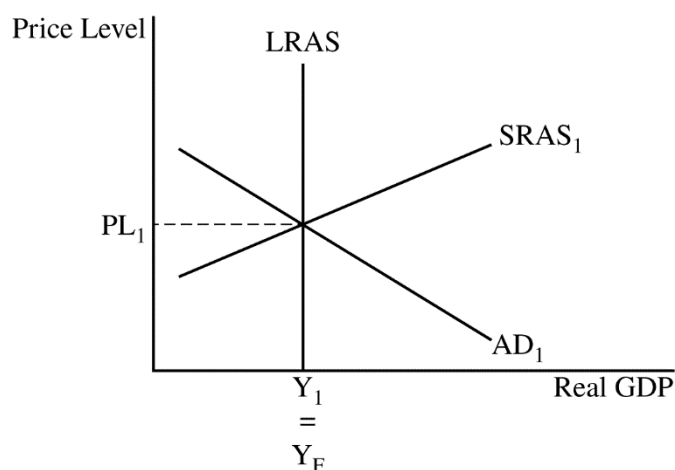
	Total for part (a)	**2 points**

(b) (i)   Calculate the marginal propensity to consume as 0.4 and show your work.   **1 point**

$$\text{MPC} = \frac{\Delta \text{ Consumer Spending}}{\Delta \text{ Disposable Income}} = \frac{\$100,000 - \$110,000}{\$110,000 - \$135,000} = \frac{-\$10,000}{-\$25,000} = 0.4$$

(ii) On the graph from part (a), show the short-run effect of the decrease in consumer **1 point**
spending as a leftward shift of the AD curve, resulting in a decrease in the price level to
PL_2 and a decrease in real output to Y_2.
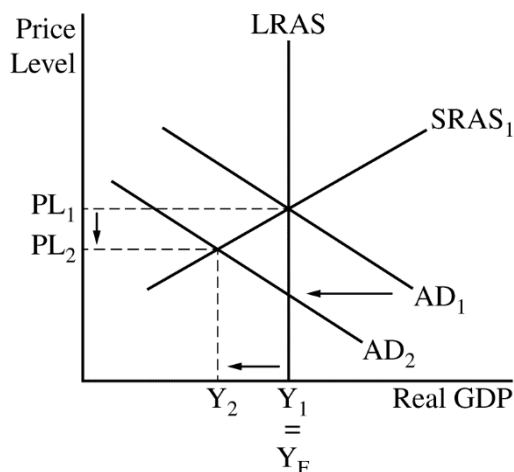
| | **Total for part (b)** | **2 points** |

(c) Explain that input prices (e.g., nominal wages) and/or inflationary expectations will **1 point**
decrease, causing SRAS to increase until it reaches full employment.

(d) State that the central bank would decrease its administered interest rates or decrease **1 point**
interest on reserves.

(e) Draw a correctly labeled graph of the reserve market with the supply curve intersecting **1 point**
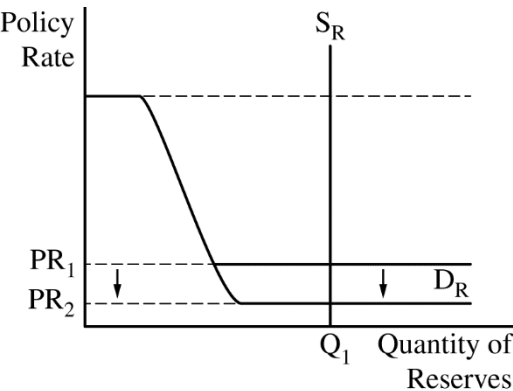the demand curve in the range of ample reserves.
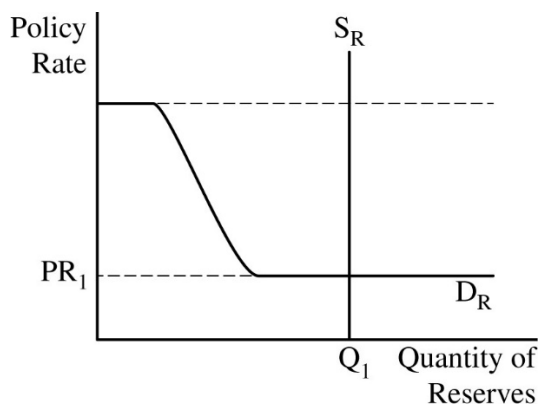
For the second point, the graph must show a decrease in the administered interest rates, resulting in a decrease in the policy rate. **1 point**
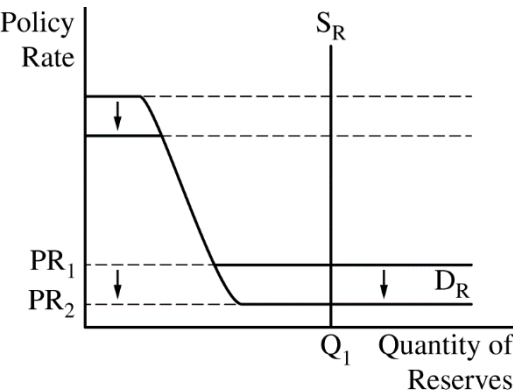
OR

For the second point, the graph must show a decrease in the lower bound of the demand curve for reserves, resulting in a decrease in the policy rate.

Total for part (e)	**2 points**

(f)	For the first point, state that the quantity of national savings would decrease and the unemployment rate would decrease.	**1 point**
	For the second point, explain that the decrease in nominal interest rates will increase interest-sensitive spending (consumption, investment, or net exports), causing an increase in aggregate demand and real output.	**1 point**

Total for part (f)	**2 points**

Total for question 1	**10 points**