

Past-paper walk-through

Financial Assets ■ 4.1

eXercise

Questions in this set

- 2026 Q1
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Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 1

2026 ■ Q1

The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

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

The current equilibrium real output and price level, labeled Y_1 and PL_1 , respectively.

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

The full-employment real output, labeled Y_F .

Question 1

2026 ■ Q1

The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

(b) Assume that policymakers take no action to close the inflationary gap. Explain how Micanapy's economy will self-adjust to full employment in the long run.

Question 1

2026 ■ Q1

The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

(c)(i) Suppose instead that Micanapy's central bank is considering using monetary policy to close the inflationary gap in the short run. The banking system in Micanapy has limited reserves.

Identify a specific open-market operation that the central bank of Micanapy would implement to close the inflationary gap in the short run.

(c)(ii) Draw a correctly labeled graph of the money market in Micanapy, and show the effect of the open-market operation identified in part C (i) on the nominal interest rate.

Question 1

2026 ■ Q1

The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

(d)(i) Based solely on the interest rate change shown on your graph in part C (ii), will each of the following increase, decrease, or remain the same in the short run?

International financial capital flows into Micanapy. Explain.

(d)(ii) Based solely on the interest rate change shown on your graph in part C (ii), will each of the following increase, decrease, or remain the same in the short run?

The price of previously issued bonds in Micanapy.

(d)(iii) Based solely on the interest rate change shown on your graph in part C (ii), will each of the following increase, decrease, or remain the same in the short run?

Private domestic investment spending in Micanapy.

Question 1

2026 ■ Q1

The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

(e) Based solely on the change in private domestic investment spending identified in part D (iii), will the unemployment rate in Micanapy increase, decrease, or remain the same in the short run? Explain.

Question 2

2025 Set 2 ■ Q2

Assume the economy of Jenland is in short-run equilibrium at a real output level above full-employment real output.

(a) The banking system in Jenland has ample reserves. Identify a specific monetary policy action that the central bank of Jenland would implement to return the economy to full employment in the short run.

(b) Draw a correctly labeled graph of the reserve market for Jenland, and show the effect of the central bank's action identified in part A on the policy rate.

(c)(i) Based on the change in the interest rate shown on your graph in part B, will each of the following increase, decrease, or remain the same in Jenland in the short run?

The price of previously issued bonds

Question 2

(c)(ii) Based on the change in the interest rate shown on your graph in part B, will each of the following increase, decrease, or remain the same in Jenland in the short run?

The price level. Explain.

Solution 2

(a)

Mark scheme

- The central bank should increase its administered interest rate(s) — e.g., increase the interest rate paid on reserves (IORB) — which raises the policy rate. Because reserves are ample, this is the specific lever the central bank uses to move the policy (federal-funds-type) rate; it is a contractionary monetary policy action, appropriate here for returning an overheated economy toward full employment.

Solution 2

(b) Mark scheme

- Draw a reserve-market graph: Policy Rate on the vertical axis, Quantity of Reserves on the horizontal axis. The demand curve D_R is downward-sloping then flat (horizontal) in the range of ample reserves; the supply curve S_R is vertical at Q_1 , intersecting D_R in its flat/ample-reserves segment at policy rate PR_1 . Then show the central bank's action from part A: the flat (lower-bound) portion of the demand curve shifts upward — from PR_1 to PR_2 — while S_R remains vertical at Q_1 , so the equilibrium policy rate rises from PR_1 to PR_2 . Full credit requires: (1) a correctly labeled reserve-market graph with S_R and D_R intersecting in the ample-reserves (flat) range, and (2) a correct increase in the administered rate/lower bound of D_R that raises the equilibrium policy rate from PR_1 to PR_2 .

Solution 2

(c)(i)

Mark scheme

- The price of previously issued bonds will decrease. Bond prices and interest rates move inversely, so as the policy/interest rate rises, the price of existing (fixed-coupon) bonds falls.

Solution 2

(c)(ii)

Mark scheme

- The price level will decrease. The increase in interest rates raises the cost of borrowing, which decreases interest-sensitive spending (consumption, investment, and/or net exports), decreasing aggregate demand and thus decreasing the price level.

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(a) Calculate Alpha's natural rate of unemployment. Show your work.

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

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

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

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(c)(i) Assume that policymakers take no action to close the output gap.

Explain how Alpha's economy will adjust to full employment in the long run.

(c)(ii) On your graph in part (b), show how Alpha's economy will adjust to full employment in the long run, labeling the new equilibrium price level PL_2 .

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(d) Assume instead that Alpha's central bank is considering using monetary policy to close a recessionary output gap. The banking system in Alpha has ample reserves. Identify a specific monetary policy action the central bank of Alpha would take to close the output gap in the short run.

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(e) Draw a correctly labeled graph of the reserve market in Alpha, and show the effect of the action taken by the central bank identified in part (d) on the policy rate.

Question 1

2024 Set 1 ■ Q1

The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(f)(i) Based on the change in the policy rate shown in part (e), what would happen to each of the following in the short run in Alpha?

The price of previously issued bonds

(f)(ii) The price level. Explain.

Solution 1

(a)

Mark scheme

- Natural UER = Actual UER – Cyclical UER = $8\% - 3\% = 5\%$. (Equivalent method: Structural UER = Actual UER – Cyclical UER – Frictional UER = $8\% - 3\% - 4\% = 1\%$; Natural UER = Frictional UER + Structural UER = $4\% + 1\% = 5\%$.) Final answer: natural rate of unemployment = 5%, with work shown by either method.

Solution 1

(b)

Mark scheme

- Draw a Price Level (vertical axis) vs. Real GDP (horizontal axis) graph. Point 1: a downward-sloping AD1 curve and an upward-sloping SRAS1 curve intersecting at a point labeled PL1 (price level) and Y1 (real GDP) directly below it. Point 2: add a vertical LRAS curve positioned to the right of Y1, with its base on the horizontal axis labeled YF (full-employment output) — showing Alpha currently below full employment ($Y1 < YF$, a recessionary gap).

Solution 1

(c)(i)

Mark scheme

- With no policy action, the recessionary gap ($Y_1 < Y_F$) means unemployment exceeds the natural rate, so input prices (e.g., nominal wages) and/or inflationary expectations fall over time. This lowers production costs, causing SRAS to increase (shift right), and this continues until the economy returns to full employment output Y_F .

Solution 1

(c)(ii)

Mark scheme

- On the graph from part (b), shift SRAS1 rightward to SRAS2 so that it now intersects AD1 and LRAS at the same point, at output YF. Label the new, lower equilibrium price level PL2 ($PL2 < PL1$). Also show the SRAS curve shifting right and output moving from Y1 to YF.

Solution 1

(d)

Mark scheme

- The central bank would decrease its administered interest rate(s) — e.g., decrease the interest rate paid on reserves (IOR) — or otherwise decrease interest on reserves, lowering the policy rate as expansionary monetary policy to close the recessionary output gap.

Solution 1

(e) Mark scheme

- Draw the reserve market graph: Policy Rate on the vertical axis, Quantity of Reserves on the horizontal axis. Point 1: a vertical supply curve SR and a demand curve DR that slopes down then becomes flat, intersecting SR within the flat 'ample reserves' region at PR1, Q1 — a correctly labeled graph with S intersecting D in the ample-reserves range. Point 2: show the effect of the action in part (d) — the administered rate (floor of DR) shifts down, so the flat portion of DR shifts down, producing a new, lower policy rate $PR2 < PR1$ at the same quantity Q1 (equivalently framed as a decrease in the lower bound of the reserve demand curve lowering the policy rate).

Solution 1

(f)(i)

Mark scheme

- The price of previously issued bonds will increase. Because the policy/nominal interest rate has fallen, existing bonds carrying the older, higher fixed coupon become relatively more attractive, so their market price rises (bond prices move inversely with interest rates).

Solution 1

(f)(ii)

Mark scheme

- The price level will increase. Explanation: the decrease in the nominal interest rate lowers borrowing costs, which increases interest-sensitive spending — consumption (especially durable goods), investment, and/or net exports — thereby increasing aggregate demand (AD shifts right) and raising the price level in the short run.

Question 1

2023 Set 1 ■ Q1

Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of 500 million. The full – employment level of real GDP is 550 million.

- (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

Question 1

2023 Set 1 ■ Q1

Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of 500 million. The full – employment level of real GDP is 550 million.

(b)(i) Assume no policy action is taken to restore full employment.

Explain how the economy will adjust in the long run.

(b)(ii) Following the long-run adjustment process, will the price level in Vanderlandia be greater than, less than, or equal to PL_1 shown on your graph in part (a)?

Question 1

2023 Set 1 ■ Q1

Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of 500 million. The full – employment level of real GDP is 550 million.

(c)(i) Assume instead that policymakers in Vanderlandia are considering changing government spending to restore full employment in the short run and that the marginal propensity to save is 0.2.

Calculate the minimum change and state the direction of change in government spending required to completely close the output gap in the short run. Show your work.

(c)(ii) On your graph in part (a), show the short-run effect of the change in government spending in part (c)(i), labeling the new equilibrium price level PL_2 .

Question 1

2023 Set 1 ■ Q1

Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of 500 million. The full – employment level of real GDP is 550 million.

(d) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in government spending in part (c)(i) on the equilibrium real interest rate.

Question 1

2023 Set 1 ■ Q1

Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of 500 million. The full – employment level of real GDP is 550 million.

(e)(i) Based on the change in the real interest rate shown on your graph in part (d), what will happen to each of the following?

The price of previously issued bonds

(e)(ii) The rate of economic growth in the long run. Explain.

Solution 1

(a)

Mark scheme

- Draw a standard downward-sloping AD curve and upward-sloping SRAS curve (Price Level on the vertical axis, Real GDP on the horizontal axis). Label their intersection as the current equilibrium, with equilibrium output Y_1 on the horizontal axis and equilibrium price level PL_1 on the vertical axis (dashed lines from the intersection to each axis) — this earns Point 1. Then add a vertical long-run aggregate supply curve (LRAS) positioned to the RIGHT of Y_1 , and label the real GDP value at which it sits Y_F (full-employment output) — this earns Point 2.

Solution 1

(b)(i)

Mark scheme

- Since Y_1 is below full-employment output Y_F (a recessionary gap), in the long run nominal wages and other input prices (and/or inflationary expectations) will decrease. This fall in input costs causes short-run aggregate supply (SRAS) to increase (shift rightward) until the economy self-corrects back to equilibrium at full employment, Y_F .

Solution 1

(b)(ii)

Mark scheme

- The price level following the long-run adjustment will be LESS THAN PL_1 — as SRAS shifts rightward, the new equilibrium slides down along AD, so both output rises to Y_F and the price level falls below its original level PL_1 .

Solution 1

(c)(i)

Mark scheme

- Spending multiplier $= 1/\text{MPS} = 1/0.2 = 5$. Minimum change in government spending $= \frac{\text{Output Gap}}{\text{Spending Multiplier}} = \frac{\$50 \text{ million}}{5} = \10 million . Government spending must INCREASE by \$10 million to fully close the recessionary output gap in the short run.

Solution 1

(c)(ii)

Mark scheme

- On the graph from part (a), shift the AD curve rightward (from AD_1 to AD_2) so the new short-run equilibrium occurs exactly where AD_2 intersects $SRAS_1$ at the vertical LRAS curve (i.e., at Y_F), with the new, higher equilibrium price level labeled PL_2 (where $PL_2 > PL_1$).

Solution 1

(d) Mark scheme

- Draw a standard loanable funds market graph (Real Interest Rate on the vertical axis, Quantity of Loanable Funds on the horizontal axis) with a downward-sloping demand curve D_{LF_1} and an upward-sloping supply curve S_{LF_1} intersecting at equilibrium interest rate r_1 and quantity Q_1 — this earns Point 1. Then show the effect of the increased government spending/borrowing from part (c)(i): the government's borrowing increases the demand for loanable funds, shifting D_{LF_1} rightward to D_{LF_2} (an equally valid alternative is showing the supply of loanable funds decreasing from S_{LF_1} to S_{LF_2}). Either shift raises the equilibrium real interest rate from r_1 to a higher r_2 — this earns Point 2.

Solution 1

(e)(i)

Mark scheme

- The price of previously issued bonds will DECREASE. Bond prices and interest rates move inversely: as the real interest rate rises from r_1 to r_2 , existing bonds with fixed coupon payments become less attractive relative to new, higher-rate bonds, so their market price falls.

Solution 1

(e)(ii)

Mark scheme

- The rate of long-run economic growth will **DECREASE**. Explanation: the increase in the real interest rate raises the cost of borrowing, which decreases investment spending on physical capital, human capital, and/or research and development. Since these are key drivers of an economy's productive capacity (they shift LRAS rightward over time), less investment in them slows the long-run growth rate.

Question 1

2022 Set 2 ■ Q1

1. Assume the United States economy is in short-run macroeconomic equilibrium at an output level greater than potential output.
 - (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 as Y_1 and PL_1 , respectively
 - (ii) The full-employment output, labeled as Y_F
 - (b) Assume government spending increases by \$100 billion. On your graph in part (a), show the short-run effect of the change in government spending on the equilibrium real output and price level. Label the new equilibrium output as Y_2 and the new equilibrium price level as PL_2 .
 - (c) Assume the marginal propensity to consume is 0.8. As a result of the increase in government spending, what is the numerical value of the maximum change in each of the following in the short run?
 - (i) Real output
 - (ii) Household savings

Question 1

- (d) Draw a correctly labeled graph of the money market and show the effect of the change in real output identified in part (c)(i) on the equilibrium nominal interest rate.
- (e) Based on the change in the nominal interest rate shown in part (d), what will happen to the prices of previously issued bonds in the short run?
- (f) The United States and the European Union are trading partners with flexible exchange rates. The currency in the United States is the dollar, and the currency in the European Union is the euro. Assume the inflation rate in the United States increases relative to the inflation rate in the European Union. As a result of the change in the United States inflation rate, what will happen to each of the following in the foreign exchange market?
- (i) The demand for dollars. Explain.
 - (ii) The international value of the dollar
- (g) Suppose the Federal Reserve attempts to keep the value of the dollar constant in the foreign exchange market. Based on the change in the value of the dollar in part (f)(ii), should the Federal Reserve buy or sell each of the following?

Question 1

- (i) The euro
- (ii) The dollar

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.

Solution 1

(a) Mark scheme

- Draw an AD–AS graph: axes Price Level (vertical) and Real GDP (horizontal), with a downward-sloping AD_1 and an upward-sloping $SRAS_1$ intersecting at price level PL_1 and real output Y_1 (dashed lines to both axes) — 1 point. Second point: add a vertical LRAS curve positioned to the LEFT of Y_1 , with its base labeled Y_F (full-employment output), showing the economy currently producing above full employment ($Y_1 > Y_F$, an inflationary/expansionary gap) — 1 point. Total 2 points for a correctly labeled graph showing both the current equilibrium (PL_1, Y_1) and full-employment output Y_F .

Solution 1

(b)

Mark scheme

- On the graph from part (a), shift AD_1 rightward to AD_2 (an arrow indicating the shift), reflecting the increase in government spending. The new equilibrium is at the intersection of AD_2 and $SRAS_1$: real output rises to Y_2 ($Y_2 > Y_1$) and the price level rises to PL_2 ($PL_2 > PL_1$), both labeled with dashed lines to the axes. 1 point for correctly showing the rightward AD shift with both Y_2 and PL_2 labeled at the new, higher intersection.

Solution 1

(c)(i)

Mark scheme

- Maximum increase in real output = 500 billion. *Work : the spending multiplier = $1 \div (1 - MPC) = 1 \div (1 - 0.8) = 1 \div 0.2 = 5$. Maximum Real Output = $spending\ multiplier \times Government\ Spending = 5 \times 100\text{ billion} = 500\text{ billion}$. 1 point for the correct value (500 billion) with the multiplier calculation shown. (In the official scoring guidelines this single point is shared with part (c)(ii) — both the real-output and household-savings values are required together for the point.)*

Solution 1

(c)(ii)

Mark scheme

- Maximum increase in household savings = 100 billion. *Work* : $MPS = 1 - MPC = 1 - 0.8 = 0.2$. $MaximumHouseholdSavings = MPS \times maximumRealOutput(from\ part(c)(i)) = 0.2 \times 500\ billion = 100\ billion$ —equal to the initial increase in government spending, since with no taxes or import substitution. (Shares its official 1 point with part (c)(i); each value is graded here for its own point.)

Solution 1

(d) Mark scheme

- Draw a money-market graph: axes Nominal Interest Rate (vertical) and Quantity of Money (horizontal), with a vertical money supply curve MS_1 and a downward-sloping money demand curve MD_1 intersecting at nominal interest rate i_1 and quantity Q_1 (dashed lines to both axes) — 1 point. Second point: shift MD_1 rightward to MD_2 (an arrow indicating the shift), because the increase in real output from part (c)(i) raises money demand at every interest rate; the new equilibrium is at a higher nominal interest rate i_2 ($i_2 > i_1$, dashed line) at the same quantity Q_1 (MS is vertical/fixed) — 1 point. Total 2 points.

Solution 1

(e)

Mark scheme

- The price of previously issued bonds will DECREASE. Bond prices and interest rates move inversely, so the rise in the nominal interest rate shown in part (d) ($i_1 \rightarrow i_2$) causes the price of existing, fixed-coupon bonds to fall. 1 point.

Solution 1

(f)(i)

Mark scheme

- The demand for dollars will **DECREASE**. Explanation: the increase in the United States inflation rate (relative to the European Union) makes United States goods relatively more expensive than European goods, so Europeans buy fewer U.S. exports — reducing the quantity of dollars they need to demand in the foreign exchange market to purchase them. 1 point for stating the decrease **AND** giving this relative-price explanation.

Solution 1

(f)(ii)

Mark scheme

- The international value of the dollar will DEPRECIATE. Because the demand for dollars decreases (part (f)(i)) while the supply of dollars in the foreign exchange market is unchanged, the equilibrium price (value) of the dollar falls relative to the euro. 1 point.

Solution 1

(g)(i)

Mark scheme

- To keep the value of the dollar constant despite the depreciation pressure identified in part (f)(ii), the Federal Reserve should SELL euros in the foreign exchange market (increasing the supply of euros it offers in exchange for dollars). 1 point. (In the official scoring guidelines this is one combined point with part (g)(ii): 'sell the euro and buy the dollar' describes a single foreign-exchange intervention from two currency perspectives.)

Solution 1

(g)(ii)

Mark scheme

- Correspondingly, the Federal Reserve should BUY dollars in the foreign exchange market — using the euros it sells (part (g)(i)) to purchase dollars, which increases the demand for dollars and offsets the depreciation pressure from part (f)(ii), keeping the dollar's value constant. 1 point. (Shares its official 1 point with part (g)(i), the same single intervention stated from the dollar's side.)

Question 2

2017 ■ Q2

Assume that an economy is in long-run equilibrium. Assume that consumers wish to hold less money because they use credit cards more frequently to purchase goods and services than cash.

(a) Draw a correctly labeled graph of the money market and show the effect of the reduced holdings of money on the equilibrium nominal interest rate in the short run.

(b)(i) Based on the change in the interest rate in part (a), what will happen to each of the following in the short run?

Prices of previously issued bonds

(b)(ii) The price level and real income. Explain.

(c) With a constant money supply, based on your answer to part b(ii), will the velocity of money increase, decrease, or remain the same, or is the change indeterminate?

Question 2

(d) If the central bank wishes to reverse the change in the interest rate identified in part (a), what open market operation would it use?

Solution 2

(a)

Mark scheme

- Graph axes: nominal interest rate vertical, quantity of money (M) horizontal. Draw a vertical money supply (MS) curve and a downward-sloping money demand curve (correctly labeled) (1 point). Show money demand shifting leftward from $MD1$ to $MD2$ (due to reduced money holdings), with the equilibrium nominal interest rate falling from $r1$ to $r2$ (1 point).

Solution 2

(b)(i)

Mark scheme

- The price of previously issued bonds will increase. Bond prices and interest rates move inversely: as the nominal interest rate falls (from part a), existing bonds with a fixed coupon become relatively more attractive, so their price rises.

Solution 2

(b)(ii)

Mark scheme

- Both the price level and real income (real GDP) will increase. Explanation: the lower nominal interest rate (from part a) increases interest-sensitive spending — consumption, investment, and/or net exports — which increases aggregate demand, raising both the price level and real income/real GDP.

Solution 2

(c)

Mark scheme

- The velocity of money will increase. Using the equation of exchange $MV = PY$: with the money supply (M) held constant while the price level and real income (PY) both increase (from part b(ii)), velocity (V) must rise to keep the equation balanced.

Solution 2

(d)

Mark scheme

- The central bank would sell bonds (conduct an open market sale). Selling bonds decreases the money supply, which reverses the earlier fall in the interest rate by pushing the nominal interest rate back up.

Question 2

2014 ■ Q2

The Federal Reserve can influence the supply of money.

(a)(i) Assume that the Federal Reserve targets a lower federal funds rate.

What open market operation can the Federal Reserve use to achieve the lower target?

(a)(ii) Given your answer to part (a)(i), what will happen to the price of government bonds?

(b) Using a correctly labeled graph of the money market, show the effect of the open market operation from part (a)(i) on the nominal interest rate.

(c) Assume that the Federal Reserve buys government bonds from commercial banks. Based only on this transaction, will the level of required reserves in the commercial banks increase, decrease, or remain the same?

(d) Another monetary policy action involves changing the discount rate. Define the discount rate.

Solution 2

(a)(i)

Mark scheme

- The Federal Reserve should conduct an open market purchase — buy government bonds (open market operations) — which injects reserves into the banking system, increases the money supply, and lowers the federal funds rate toward the new target. 1 point for stating the Fed buys government bonds (open market purchase).

Solution 2

(a)(ii)

Mark scheme

- The price of government bonds will increase. The Fed's purchases raise demand for existing government bonds, bidding their price up (consistent with the inverse relationship between bond prices and interest rates, since the Fed is engineering a lower interest rate). 1 point for stating that the price of government bonds increases.

Solution 2

(b) Mark scheme

- Draw a money market graph with the nominal interest rate on the vertical axis and quantity of money on the horizontal axis: a downward-sloping money demand curve (MD) and a vertical money supply curve at M_1 (MS_1), intersecting at nominal interest rate r_1 . The open market purchase from part (a)(i) increases the money supply, shifting the vertical money supply curve right from MS_1 (at M_1) to MS_2 (at M_2); the new equilibrium nominal interest rate r_2 is lower than r_1 . 1 point for a correctly labeled money market graph; 1 point for shifting the money supply curve right and showing a decrease in the nominal interest rate.

Solution 2

(c)

Mark scheme

- The level of required reserves in the commercial banks will remain the same (will not initially change). Buying bonds from commercial banks increases those banks' actual reserves (and hence their excess reserves), but required reserves are determined by the required reserve ratio applied to bank deposits, which this open-market transaction alone does not change. 1 point for stating required reserves are unaffected/remain the same.

Solution 2

(d)

Mark scheme

- The discount rate is the interest rate that the Federal Reserve charges commercial banks for (short-term) loans borrowed directly from its discount window. 1 point for this definition.