

**Multiple choice:** Choose the best response to each prompt.

1. Which of the following describes the difference between an asset and a security?
  - (a) Both are something that is of value owned by an individual or firm, but an asset is liquid and a security is not liquid.
  - (b) An asset is anything of value owned by an individual or firm, and a security is a financial asset that is tradeable on the secondary market.
  - (c) An asset is something of value that is owned and a security is a debt that needs to be paid back.
  - (d) An asset is a physical item of value such as a building while a security is a financial item of value.
  
2. What is one function that financial intermediaries have in the economy?
  - (a) Pay interest to borrowers to encourage spending and investment.
  - (b) Be an intermediary between banks and individuals.
  - (c) Channel funds from savers to borrowers with productive uses for the funds.
  - (d) Print money when the Federal Reserve increases the money supply.
  
3. What is the definition of a primary market?
  - (a) Financial market in which stocks, bonds, and other securities are sold for the first time
  - (b) The primary place where financial traders sell stocks, bonds, and other financial assets
  - (c) Any financial market where investors buy and sell existing securities
  - (d) The place where people buy physical assets such as buildings and houses.
  
4. Which of the following is the definition of a central bank?
  - (a) A central bank is a governing body that manages the supply of money in the economy in order to achieve macroeconomic goals.
  - (b) A central bank is the largest bank in an economy that is too big to fail.
  - (c) A central bank is an intermediary between businesses and investors to buy and sell stocks, bonds, and other financial securities.
  - (d) A central bank enforces securities laws in order to protect financial investors.

5. Which of the following assets is the *\*most\** liquid?
- (a) Factory
  - (b) 30-Day U.S. Treasury bill
  - (c) Municipal swimming pool
  - (d) Mortgage
6. What is the definition of fiat money?
- (a) A medium of exchange that does not an inherent value outside its use as money
  - (b) A secondary currency that is not the main currency of a country
  - (c) A virtual currency such as bitcoin
  - (d) An item used as a medium of exchange that has value indepenent of its use for money
7. What measure of money supply includes currency and demand deposits including deposits in checking and savings accounts?
- (a) M2 Money Supply
  - (b) M4 Money Supply
  - (c) M3 Money Supply
  - (d) M1 Money Supply
8. Which of the following is *\*not\** included in the M2 money supply?
- (a) Savings account balances
  - (b) Virtual currencies such as bitcoin
  - (c) Checking account balances
  - (d) Balances in time deposits, such as Certificates of Deposits (CDs)
9. What function does money serve that is not well served by bartering for goods and services?
- (a) Money reduces transaction costs for exchange, reducing the burden of cost and time to find sellers that are also interested in buying or goods or services.
  - (b) Money can be used for securitization, making items of value tradeable.
  - (c) Money can be used for legal trading, where bartering is typically not legal.
  - (d) Money increases in value, but goods bartered between traders does not.

10. Which of the following functions are \*not\* carried out by Federal Reserve District Banks?
- (a) Make discount loans to banks in their district
  - (b) Serve on the Federal Open Market Committee to make decisions about U.S. monetary policy
  - (c) Provide data analysis and research on business, economics, and financial conditions in their district.
  - (d) Approve government spending decisions authorized by the U.S. President
11. Who are the leaders appointed by the U.S. President and approved by the Senate to oversee the Federal Reserve System?
- (a) Federal Reserve Board of Governors
  - (b) Federal Open Market Committee
  - (c) Federal Reserve Oversight Committee
  - (d) Federal Reserve District Bank presidents
12. Which of the following people serve on the Federal Open Market Committee?
- (a) Members of the U.S. senate
  - (b) U.S. President
  - (c) Director of the Security and Exchange Commission
  - (d) Chair person of the Federal Reserve Board of Governors
13. The Board of Directors for a Federal Reserve District bank includes which of the following?
- (a) Three members of Congress from the district.
  - (b) Three presidents of other Federal Reserve District Banks
  - (c) Three presidents of banks in the Federal Reserve District
  - (d) Three public interest directors
14. Which of the following characteristics allow the Federal Reserve to act somewhat independently from elected officials?
- (a) Members of the Federal Reserve Open Market Committee have lifetime appointments.
  - (b) Five members of the Federal Reserve Open Market Committee are not appointed or approved by Congress.
  - (c) The Federal Open Market Committee decisions can only be overwritten by a super-majority of both houses of Congress.
  - (d) Members of the Federal Reserve Board of Governors have lifetime appointments.

15. What is a responsibility of the Federal Open Market Committee?
- (a) Make decisions for the level of borrowing by member banks.
  - (b) Make decisions for the level of government borrowing.
  - (c) Approve bank mergers.
  - (d) Make decisions for open market operations.
16. What was one of the original intentions of the Federal Reserve System when it was created by the Federal Reserve Act in 1913?
- (a) Decrease the level of U.S. government debt.
  - (b) Pay interest on U.S. debt.
  - (c) Provide discount loans to member banks.
  - (d) Conduct monetary policy.
17. Which of the following is part of the monetary base?
- (a) Bank reserves held at the Federal Reserve
  - (b) M1 money supply
  - (c) Deposits at financial institutions
  - (d) M2 money supply
18. Which of the following is a liability of the Federal Reserve System?
- (a) Treasury bills owned by the Federal Reserve
  - (b) Discount loans made by the Federal Reserve
  - (c) Deposits at financial institutions
  - (d) Bank reserves held at the Federal Reserve
19. Which of the following is an asset of a commercial bank?
- (a) Currency in circulation
  - (b) Loans made the bank to individuals and businesses
  - (c) M1 money supply
  - (d) Deposits

20. Which of the following is true regarding an open market purchase of bonds?
- (a) Liabilities of the Federal Reserve increase and assets of the banking institution decrease.
  - (b) Liabilities of the Federal Reserve decrease and assets of the banking institution increase.
  - (c) Liabilities of the Federal Reserve increase and assets of the banking institution increase.
  - (d) Liabilities of the Federal Reserve decrease and assets of the banking institution decrease.
21. Which of the following is true following an open market sale of bonds by the Federal Reserve?
- (a) Money supply increases.
  - (b) Money demand decreases.
  - (c) Money demand increases.
  - (d) Money supply decreases.
22. Which of the following is a discount loan?
- (a) A commercial loan at an interest rate below the Federal Funds rate
  - (b) A Federally-subsidized loan with a lower interest rate
  - (c) A loan made between banks to help the borrowing bank meet their depositors needs
  - (d) A loan made by the Federal Reserve to a commercial bank
23. Which of the following leads to a lower money multiplier?
- (a) A decrease in excess reserve ratio to total deposits in the banking system.
  - (b) An increase in the ratio of currency to total deposits in the banking system.
  - (c) An open market sale of bonds
  - (d) A decrease in the monetary base.
24. Which of the following occurred during the 2008-2009 financial crisis?
- (a) There was a decrease in the monetary base and an increase in the money supply.
  - (b) There was a moderate increase in the monetary base, but a much larger increase in the money supply.
  - (c) There was a large increase in the monetary base, but a more moderate increase in the money supply.
  - (d) There was an increase in the monetary base, but a decrease in the money supply.

25. Which of the following is equal to the M1 money supply?

- (a) Currency in circulation + Vault Cash
- (b) Currency in circulation + Reserves held at the Federal Reserve + Deposits at financial institutions
- (c) Currency in circulation + Reserves held at the Federal Reserve
- (d) Currency in circulation + Deposits at financial institutions

**Short-answer and problem-solving questions:** Provide written answers to each question in the space provided.

26. Define hyperinflation. Describe why hyperinflation hinders macroeconomic activity.

27. Define liquidity. Which is more liquid, a mortgage-backed security or a mortgage? Explain.

28. Suppose the Fed engaged in an action that led to an increase in the interest rate. Describe the expected impact on consumer spending. Explain your answer.
29. Banks are required to hold a fraction of demand deposits on reserve. These reserves are mostly held in accounts at the Federal Reserve district banks and pay a small amount of interest to the bank. Suppose the minimum reserve requirement is 10%, so banks must hold at least 10% of total demand deposits in reserve and may lend out the rest. Suppose the interest rates on loans the bank makes is 7% and suppose the interest rate paid on reserves is 2%. Suppose a bank has \$20 million in deposits. What is the opportunity cost of holding reserves as a percentage of total deposits?
30. Describe what happens to the opportunity cost of holding reserves when the Fed increases the percentage rate paid on reserves.

31. Describe two reasons why it is desirable to have an independent central bank.

32. Describe how the Federal Reserve is a public/private partnership.

33. Suppose the required reserve ratio is 10%, banks hold an extra 5% of deposits in excess reserves, and consumers hold currency balances that are about 10% of what they hold in deposits in banks. Suppose the Fed makes an open market sale of \$50 billion of government bonds. Compute the change in money supply. Is this an increase or decrease in money supply?



34. Suppose the required reserve ratio is 10%, banks hold no excess reserves, and consumers hold currency balances that are about 10% of what they hold in deposits in banks. Suppose the current money supply is \$50 trillion. Compute the change to the money supply if the Fed decreased the required reserve ratio to 5%.

35. Suppose new financial technologies such as Venmo and Apple Pay cause people to want to hold less of their money in physical currency. What type of market operations would the Federal Reserve engage in if they did not want the money supply to change?