Chapter 02

Time Value of Money

Multiple Choice Questions

1. In which city are coins made?

   A. Saint Louis

   B. Philadelphia

   C. New York

   D. Washington, D.C.

2. Paper money is produced by the _____.

   A. Federal Reserve Bank

   B. United States Treasury

   C. Bureau of Engraving and Printing

   D. Fort Knox Mint

3. What gives money its value?

   A. Supply and demand

   B. Backed by gold

   C. Backed by silver

   D. Present values

4. What two cities are currently producing coins?

   A. Denver and Philadelphia

   B. Philadelphia and San Francisco

   C. Denver and San Francisco

   D. Fort Worth and Washington, D.C.

5. What is paper money backed by?

   A. Gold

   B. Gold and silver

   C. The full faith and credit of the U.S. government and the Federal Reserve Bank

   D. Silver

6. Which of the following is paper money backed by?

   A. The U.S. president

   B. The full faith and credit of the U.S. government and the Federal Reserve Bank

   C. The Federal Reserve Bank

   D. The Bureau of Engraving and Printing and the Federal Reserve Bank

7. Where is one place where paper money is printed?

   A. San Francisco

   B. Washington, D.C.

   C. Denver

   D. Philadelphia

8. What gives paper currency value?

   A. Having a high supply and high demand

   B. Having a high supply and low demand

   C. Having a limited supply and relatively high demand

   D. Having a low supply and low demand

9. Paper money is backed by the credit and faith of the U.S. government and _____.

A. Wells Fargo

B. The Federal Union

C. The USDA

D. The Federal Reserve

10. Currently, which two U.S. cities produce coins for circulation?

A. New York and Washington, D.C.

B. Atlanta and Seattle

C. Philadelphia and Denver

D. Boston and Houston

11. What is the money in the United States backed by?

A. Gold

B. Silver

C. The full faith and credit of the U.S government

D. The president's oath of office

E. The Chinese yen

12. Who controls the circulation of money in the United States?

    A. Coin mints

    B. The Bureau of Engraving and Printing

    C. The Federal Reserve

    D. The president of the United States

13. The _____ frequently interest is compounded, the _____ the yield.

    A. More; lower

    B. More; higher

    C. Less; higher

    D. Less; same

14. The process whereby the value of an investment increases exponentially over time is called the _____.

    A. Annual percentage rate

    B. Time value

    C. Annual percentage yield

    D. Compounding

15. What is the compounding of interest?

    A. The initial deposit

    B. Money in a savings account

    C. Interest found in a savings account

    D. Interest on interest added to an initial deposit

16. The annual percentage yield indicates:

    A. How much interest is earned in a year if allowed to compound

    B. the total amount of money invested plus interest

    C. The interest rate

    D. All of these

17. What is compounding?

    A. Depositing money in the bank

    B. When interest is added to your initial deposit and you begin to earn interest on interest

    C. Your initial deposit

    D. The amount of interest you pay on a loan

18. If you invest $100 and receive a 12% APR (annual percentage rate), what will your balance be at the end of the year?

    A. $121.12

    B. $121.00

    C. $112.00

    D. $100.12

19. When interest is added to your initial deposit and you begin to earn interest on interest, this is known as

    A. The annual percentage rate

    B. The time value of money

    C. Compounding

    D. The future value of money

20. If you have $3,000 today with a 10% APY, how much will you have one year from now?

    A. $3,200

    B. $3,300

    C. $3,100

    D. $3,500

21. Anna is going to deposit $500 into an account that has an annual interest rate of 8% compounded quarterly. How much will she have at the end of one year?

    A. $541.22

    B. $537.68

    C. $546.93

    D. $538.15

22. Therese made an investment of $1,000 into an account that pays a 10% annual interest rate which is compounded quarterly. At the end of the 12-month period, Therese earned $103.81 in interest on her $1,000 investment. She calculates her annual percentage yield (APY) to be 10.38%. This is an example of how interest is:

    A. Compounded

    B. The same as the annual percentage rate (APR)

    C. Effected by the annual percentage yield (APY)

    D. Part of the Truth in Savings Act

23. What is $(1+ r/n)^n$ -1?

    A. Future value (FV)

    B. Annual percentage rate (APR)

    C. Annual percentage yield (APY)

    D. Compound percentage interest (CPI)

24. Which best describes compound interest?

A. Interest is added to a deposit

B. Interest is added to your initial deposit and you earn interest on interest

C. You pay double interest

D. You pay two separate interest rates

25. What is earning interest on interest?

A. Compounding

B. APR (annual percentage rate)

C. Savings

D. Investing

26. Which act helped eliminate investor confusion with compounding interest and the related yields?

A. The Truth in Savings Act

B. The Compound Interest Act

C. The Interest and Yield Act

D. The Sarbanes Oxley Act

27. Which is *not* a component of the formula APY = $(1 + r/n)^n - 1$?

A. *N* - 1 = Compound minus interest rate

B. *R* = Stated annual interest rate

C. *N* = Number of times you'll compound every year

D. APY = Annual percentage pate

28. Which of the following is the correct formula for computing your annual percentage yield?

A. APY = $(1+ r/n)^n -1$

B. APY = $(1- r/n) - 1$

C. APY = $[(1- r)^n] + 1$

D. APY = $[(r - n)^r] - 1$

29. Which example indicates discounting?

A. Looking for less inexpensive options when shopping

B. Figuring out how much money to invest now to have a certain amount in the future

C. Shoplifting

D. All of these

30. The Truth in Savings Act

A. Provides formulas so people can calculate the APY on investments
B. Requires that banks must disclose the fees, the APR, and the APY on interest-bearing accounts
C. Requires that banks must disclose the fees, the APR, and the APY on loans
D. Provides formulas so people can calculate the APY on loans

31. All of the following are related to the time value of money except:

A. FVIF
B. PVIFI
C. PVIF
D. FVIFA

32. What is a lump sum?

A. A single, one-time payment
B. Monthly payments
C. Yearly payments
D. Money in your savings account

33. You have a long-term goal of paying off your school loans in five years. You will graduate with a loan debt of $20,000 and an interest rate of 6%. How much will you need to pay each month to have the debt paid off in five years?

A. $386.66

B. $400.00

C. $390.17

D. $368.08

34. If Phil has a $100,000 bond with a 7% interest rate, compounded annually, how much will he have in 8 years?

A. $163,452.83

B. $170,978.42

C. $149,867.49

D. $171,818.62

35. What do you call a stream of equal payments received or paid at equal intervals in time?

A. A lump sum

B. An annuity

C. Discounting

D. Future value

36. If your parents deposited $15,000 into an account for you when you were born as part of a college savings fund and that account is earning 10% annually, how much will you have in your college savings fund on your 18^{th} birthday?

A. $36,099.29

B. $83,398.76

C. $162,520.59

D. $50,795.32

37. A stream of equal payments that occurs at the end of a period is called

A. An ordinary annuity

B. Compounding

C. An annuity due

D. An end annuity

38. An ordinary annuity is a

A. Stream of unequal payments that occurs at the end of a period

B. Stream of equal payments that occurs at the end of a period

C. Stream of equal payments that occurs at the beginning of a period

D. Stream of unequal payments that occurs at the beginning of a period

39. Using mathematical formulas, financial tables, or a financial calculator, you can find the

A. Future value of an amount invested today

B. Present value of an amount you will receive in the future

C. Future value of an amount you deposit annually

D. Present value of an amount if you make annual payments

E. All of these

40. What is the difference between an annuity and an annuity due?

A. There are no payments in an annuity due.

B. Payments are at the beginning of the month for an annuity and at the end of the month for an annuity due.

C. Payments are at the beginning of the month for an annuity due and at the end of the month for an annuity.

D. There is no difference.

41. What is a lump sum?

A. A single, one-time payment

B. All of your money is put together in a pile

C. A series of equal payments that are made at equal intervals over time

D. The value of an amount based on the interest rate

42. Which of the following correctly defines future value?

A. The current value of a said future amount based on the interest rate and time in the account.
B. The value of an amount at a future date based on the interest rate and time in the account.
C. A single, one-time payment.
D. A series of equal payments that are made at equal intervals over time.

43. If you put $1,000 into an account earning 5% interest annually, how much will you have in five years?

A. $5,000.00
B. $1,276.28
C. $1,050.50
D. $1,500.00

44. If you are investing a stream of equal payments that occur at the beginning of each month, what type of investing is this called?

A. Lump sum
B. Annuity due
C. Discounting
D. Ordinary annuity

45. Calculate the future value when PV = $1,600, the interest rate is 8%, and there are 10 periods.

A. $7,030.26

B. $3,620.37

C. $3,370.60

D. $3,454.28

46. Using the present value long-hand method, how much money would need to be deposited to earn $5,000 in five years with a 5% interest rate compounded annually?

A. $3,917.63

B. $3,917.00

C. $3,918.63

D. $3,918.00

True / False Questions

47. The government has an unlimited supply of money.

True False

48. Each dollar bill has a serial number starting with the letter or the district in which it was printed.

    True False

49. Paper money is backed by the full faith of the U.S. government and the Federal Reserve Bank.

    True False

50. You put your $100 in a savings account and earn 12% APR. At the end of one year, you earned $12.00 in interest. This is an example of simple interest.

    True False

51. The annual percentage yield (APY) is the effective monthly rate of return taking into account the effect of compounding interest.

    True False

52. The APY earned on $10,000 at 12% interest compounded monthly over the course of one year is the same rate as if compounded daily.

    True False

53. The secret to becoming a millionaire is to pay all your bills on time.

    True False

54. The time value of money is most commonly applied to two types of cash flows: lump sum and annuity.

    True False

55. You can use the future value interest factor (FVIF) table to calculate the future amount of a lump sum.

    True False

56. The process of discounting involves knowing how much money you would have had to deposit yesterday in order to have a specific amount today.

    True False

Essay Questions

57. What is the difference between compound interest and simple interest?

58. If you had the choice of choosing $3,000 now or $5,000 in five years, which one would you choose if the APY were 12%?

59. Christina plans to contribute $1,200 a year to her niece's college education. Her niece will graduate from high school in 10 years. If the interest rate is 6%, how much money does Christina need to save for her by the time she graduates from high school?

60. If Amelia deposits $7,000 of her high school graduation gift money into a savings account, how much will she have for graduate school in four years if interest rates are 3%?

Chapter 02 Time Value of Money Answer Key

Multiple Choice Questions

1. In which city are coins made?

A. Saint Louis

B. Philadelphia

C. New York

D. Washington, D.C.

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

2. Paper money is produced by the _____.

A. Federal Reserve Bank

B. United States Treasury

C. Bureau of Engraving and Printing

D. Fort Knox Mint

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

3. What gives money its value?

A. Supply and demand

B. Backed by gold

C. Backed by silver

D. Present values

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

4. What two cities are currently producing coins?

A. Denver and Philadelphia

B. Philadelphia and San Francisco

C. Denver and San Francisco

D. Fort Worth and Washington, D.C.

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

5. What is paper money backed by?

A. Gold
B. Gold and silver
C. The full faith and credit of the U.S. government and the Federal Reserve Bank
D. Silver

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.
Topic: What Gives Money Value

6. Which of the following is paper money backed by?

A. The U.S. president
B. The full faith and credit of the U.S. government and the Federal Reserve Bank
C. The Federal Reserve Bank
D. The Bureau of Engraving and Printing and the Federal Reserve Bank

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.
Topic: What Gives Money Value

7. Where is one place where paper money is printed?

A. San Francisco

B. Washington, D.C.

C. Denver

D. Philadelphia

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

8. What gives paper currency value?

A. Having a high supply and high demand

B. Having a high supply and low demand

C. Having a limited supply and relatively high demand

D. Having a low supply and low demand

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

9. Paper money is backed by the credit and faith of the U.S. government and _____.

A. Wells Fargo

B. The Federal Union

C. The USDA

D. The Federal Reserve

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

10. Currently, which two U.S. cities produce coins for circulation?

A. New York and Washington, D.C.

B. Atlanta and Seattle

C. Philadelphia and Denver

D. Boston and Houston

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

11. What is the money in the United States backed by?

A. Gold

B. Silver

C. The full faith and credit of the U.S government

D. The president's oath of office

E. The Chinese yen

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

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Topic: What Gives Money Value

12. Who controls the circulation of money in the United States?

A. Coin mints

B. The Bureau of Engraving and Printing

C. The Federal Reserve

D. The president of the United States

AACSB: Analytic

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.

Topic: What Gives Money Value

13. The _____ frequently interest is compounded, the _____ the yield.

A. More; lower

B. More; higher

C. Less; higher

D. Less; same

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

14. The process whereby the value of an investment increases exponentially over time is called the _____.

A. Annual percentage rate

B. Time value

C. Annual percentage yield

D. Compounding

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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15. What is the compounding of interest?

A. The initial deposit

B. Money in a savings account

C. Interest found in a savings account

D. Interest on interest added to an initial deposit

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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16. The annual percentage yield indicates:

A. How much interest is earned in a year if allowed to compound

B. the total amount of money invested plus interest

C. The interest rate

D. All of these

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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17. What is compounding?

A. Depositing money in the bank

B. When interest is added to your initial deposit and you begin to earn interest on interest

C. Your initial deposit

D. The amount of interest you pay on a loan

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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18. If you invest $100 and receive a 12% APR (annual percentage rate), what will your balance be at the end of the year?

A. $121.12

B. $121.00

C. $112.00

D. $100.12

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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19. When interest is added to your initial deposit and you begin to earn interest on interest, this is known as

A. The annual percentage rate
B. The time value of money
C. Compounding
D. The future value of money

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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20. If you have $3,000 today with a 10% APY, how much will you have one year from now?

A. $3,200
B. $3,300
C. $3,100
D. $3,500

AACSB: Analytic
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

21. Anna is going to deposit $500 into an account that has an annual interest rate of 8% compounded quarterly. How much will she have at the end of one year?

A. $541.22
B. $537.68
C. $546.93
D. $538.15

AACSB: Analytic
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
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22. Therese made an investment of $1,000 into an account that pays a 10% annual interest rate which is compounded quarterly. At the end of the 12-month period, Therese earned $103.81 in interest on her $1,000 investment. She calculates her annual percentage yield (APY) to be 10.38%. This is an example of how interest is:

A. Compounded
B. The same as the annual percentage rate (APR)
C. Effected by the annual percentage yield (APY)
D. Part of the Truth in Savings Act

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard

Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.

Topic: Power of Compounding

23. What is $(1+ r/n)^n$ -1?

A. Future value (FV)

B. Annual percentage rate (APR)

C. Annual percentage yield (APY)

D. Compound percentage interest (CPI)

AACSB: Analytic

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.

Topic: Power of Compounding

24. Which best describes compound interest?

A. Interest is added to a deposit

B. Interest is added to your initial deposit and you earn interest on interest

C. You pay double interest

D. You pay two separate interest rates

AACSB: Analytic

Blooms: Evaluate

Difficulty: 3 Hard

Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.

Topic: Power of Compounding

25. What is earning interest on interest?

A. Compounding
B. APR (annual percentage rate)
C. Savings
D. Investing

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

26. Which act helped eliminate investor confusion with compounding interest and the related yields?

A. The Truth in Savings Act
B. The Compound Interest Act
C. The Interest and Yield Act
D. The Sarbanes Oxley Act

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
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27. Which is *not* a component of the formula APY = $(1 + r/n)^{n} - 1$?

A. $N - 1$ = Compound minus interest rate

B. R = Stated annual interest rate

C. N = Number of times you'll compound every year

D. APY = Annual percentage pate

AACSB: Analytic

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.

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28. Which of the following is the correct formula for computing your annual percentage yield?

A. APY = $(1+ r/n)^{n} -1$

B. APY = $(1- r/n) - 1$

C. APY = $[(1- r)^{n}] + 1$

D. APY = $[(r - n)^{1}] - 1$

AACSB: Analytic

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.

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B. Figuring out how much money to invest now to have a certain amount in the future
C. Shoplifting
D. All of these

AACSB: Analytic
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

30. The Truth in Savings Act

A. Provides formulas so people can calculate the APY on investments
B. Requires that banks must disclose the fees, the APR, and the APY on interest-bearing accounts
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AACSB: Analytic
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C. Yearly payments

D. Money in your savings account

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
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Blooms: Analyze
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35. What do you call a stream of equal payments received or paid at equal intervals in time?

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B. An annuity

C. Discounting

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AACSB: Analytic

Blooms: Remember

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Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

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Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

Topic: The Time Value of Money

37. A stream of equal payments that occurs at the end of a period is called

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B. Compounding
C. An annuity due
D. An end annuity

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
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B. Stream of equal payments that occurs at the end of a period
C. Stream of equal payments that occurs at the beginning of a period
D. Stream of unequal payments that occurs at the beginning of a period

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

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C. Future value of an amount you deposit annually
D. Present value of an amount if you make annual payments
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Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

40. What is the difference between an annuity and an annuity due?

A. There are no payments in an annuity due.
B. Payments are at the beginning of the month for an annuity and at the end of the month for an annuity due.
C. Payments are at the beginning of the month for an annuity due and at the end of the month for an annuity.
D. There is no difference.

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to

put aside to meet financial goals.

Topic: The Time Value of Money

41. What is a lump sum?

A. A single, one-time payment

B. All of your money is put together in a pile

C. A series of equal payments that are made at equal intervals over time

D. The value of an amount based on the interest rate

AACSB: Analytic

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

Topic: The Time Value of Money

42. Which of the following correctly defines future value?

A. The current value of a said future amount based on the interest rate and time in the account.

B. The value of an amount at a future date based on the interest rate and time in the account.

C. A single, one-time payment.

D. A series of equal payments that are made at equal intervals over time.

AACSB: Analytic

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to

put aside to meet financial goals.

Topic: The Time Value of Money

43. If you put $1,000 into an account earning 5% interest annually, how much will you have in five years?

A. $5,000.00

B. $1,276.28

C. $1,050.50

D. $1,500.00

AACSB: Analytic

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

Topic: The Time Value of Money

44. If you are investing a stream of equal payments that occur at the beginning of each month, what type of investing is this called?

A. Lump sum

B. Annuity due

C. Discounting

D. Ordinary annuity

AACSB: Analytic

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to

put aside to meet financial goals.

Topic: The Time Value of Money

45. Calculate the future value when PV = $1,600, the interest rate is 8%, and there are 10 periods.

A. $7,030.26

B. $3,620.37

C. $3,370.60

D. $3,454.28

AACSB: Analytic

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

Topic: The Time Value of Money

46. Using the present value long-hand method, how much money would need to be deposited to earn $5,000 in five years with a 5% interest rate compounded annually?

A. $3,917.63

B. $3,917.00

C. $3,918.63

D. $3,918.00

AACSB: Analytic

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

True / False Questions

47. The government has an unlimited supply of money.

FALSE

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.
Topic: What Gives Money Value

48. Each dollar bill has a serial number starting with the letter or the district in which it was printed.

TRUE

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.
Topic: What Gives Money Value

49. Paper money is backed by the full faith of the U.S. government and the Federal Reserve Bank.

TRUE

AACSB: Analytic
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain what gives paper currency value and how the Federal Reserve Bank manages its distribution.
Topic: What Gives Money Value

50. You put your $100 in a savings account and earn 12% APR. At the end of one year, you earned $12.00 in interest. This is an example of simple interest.

TRUE

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

51. The annual percentage yield (APY) is the effective monthly rate of return taking into account the effect of compounding interest.

FALSE

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

52. The APY earned on $10,000 at 12% interest compounded monthly over the course of one year is the same rate as if compounded daily.

FALSE

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

53. The secret to becoming a millionaire is to pay all your bills on time.

FALSE

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

54. The time value of money is most commonly applied to two types of cash flows: lump sum and annuity.

TRUE

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.

Topic: The Time Value of Money

55. You can use the future value interest factor (FVIF) table to calculate the future amount of a lump sum.

TRUE

AACSB: Analytic
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

56. The process of discounting involves knowing how much money you would have had to deposit yesterday in order to have a specific amount today.

FALSE

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

Essay Questions

57. What is the difference between compound interest and simple interest?

Compound interest is when you gain interest from the interest that you have already earned. So your deposit just keeps building and you gain interest on top of interest. Simple interest is when you have interest only on the initial deposit. You will have the same amount of interest added each year.

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-02 Differentiate between simple and compound interest rates and calculate annual percentage yields and the value of paying yourself first.
Topic: Power of Compounding

58. If you had the choice of choosing $3,000 now or $5,000 in five years, which one would you choose if the APY were 12%?

Choose the $3,000 now. $3,000(1 + .12)^5 = 5,287.03

AACSB: Analytic
Blooms: Evaluate
Difficulty: 3 Hard
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

59. Christina plans to contribute $1,200 a year to her niece's college education. Her niece will graduate from high school in 10 years. If the interest rate is 6%, how much money does Christina need to save for her by the time she graduates from high school?

FV = $1,200(FVIFA 6,10) = 1,200 * 13.181 = 15,817.20

AACSB: Analytic
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money

60. If Amelia deposits $7,000 of her high school graduation gift money into a savings account, how much will she have for graduate school in four years if interest rates are 3%?

$7,878.56

AACSB: Analytic
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-03 Calculate the future and present value of lump sums and annuities in order to know what amount to put aside to meet financial goals.
Topic: The Time Value of Money