

**Test Bank for McGraw Hills Taxation of
Individuals and Business Entities 2022
Edition 13th Spilker**

McGraw Hills Taxation of Individuals and Business Entities

2022 Edition 13th Edition by Spilker CH01

ANSWERS ARE LOCATED IN THE SECOND PART OF THIS DOCUMENT

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

1) Taxes influence many types of business decisions but generally do not influence personal decisions.

- ☐ true
- ☐ false

2) Taxes influence business decisions such as where a business should locate or how a business should be structured.

- ☐ true
- ☐ false

3) Tax policy rarely plays an important part in presidential campaigns.

- ☐ true
- ☐ false

4) Margaret recently received a parking ticket. This is a common example of a local tax.

- ☐ true
- ☐ false

5) George recently paid \$50 to renew his driver's license. The \$50 payment is considered a tax.

- ☐ true
- ☐ false

6) A 1 percent charge imposed by a local government on football tickets sold is not considered a tax if all proceeds are earmarked to fund local schools.

- ☐ true
- ☐ false

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7) One key characteristic of a tax is that it is a required payment to a governmental agency.

- ☐ true
- ☐ false

8) Common examples of sin taxes include the taxes imposed on airline tickets and gasoline.

- ☐ true
- ☐ false

9) One benefit of a sin tax (e.g., a tax on cigarettes) is that it should increase the demand for the products being taxed.

- ☐ true
- ☐ false

10) In addition to raising revenues, specific U.S. taxes may have other objectives (e.g., economic or social objectives).

- ☐ true
- ☐ false

11) The two components of the tax calculation are the tax rate and the taxpayer's status.

- ☐ true
- ☐ false

12) The tax base for the federal income tax is taxable income.

- ☐ true
- ☐ false

13) A flat tax is an example of a graduated tax system.

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- ☐ true
- ☐ false

14) The main difficulty in calculating an income tax is determining the correct amount of the tax base.

- ☐ true
- ☐ false

15) A taxpayer's average tax rate is the most appropriate tax rate to use in tax planning.

- ☐ true
- ☐ false

16) The effective tax rate, in general, provides a better depiction of a taxpayer's tax burden than the average tax rate.

- ☐ true
- ☐ false

17) The effective tax rate expresses the taxpayer's total tax as a percentage of the taxpayer's taxable and nontaxable income.

- ☐ true
- ☐ false

18) In a proportional (flat) tax rate system, the marginal tax rate will always equal the average tax rate.

- ☐ true
- ☐ false

19) In a regressive tax rate system, the marginal tax rate will often be greater than the average tax rate.

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- ☐ true
- ☐ false

20) A sales tax is a common example of a progressive tax rate structure.

- ☐ true
- ☐ false

21) In terms of effective tax rates, the sales tax can be viewed as a regressive tax.

- ☐ true
- ☐ false

22) While sales taxes are quite common, currently the U.S. federal government does not impose a sales tax.

- ☐ true
- ☐ false

23) The largest federal tax, in terms of revenue collected, is the Social Security tax.

- ☐ true
- ☐ false

24) The 9th Amendment to the U.S. Constitution removed all doubt that a federal income tax was allowed under the U.S. Constitution.

- ☐ true
- ☐ false

25) A common example of an employment-related tax is the Medicare tax.

- ☐ true
- ☐ false

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26) Self-employment taxes are charged on self-employment income in addition to any federal income tax.

- ☐ true
- ☐ false

27) Excise taxes are typically levied on the value of a good purchased.

- ☐ true
- ☐ false

28) The estate tax is assessed based on the fair market values of transfers made during a taxpayer's life.

- ☐ true
- ☐ false

29) A use tax is typically imposed by a state on goods purchased within the state.

- ☐ true
- ☐ false

30) Property taxes may be imposed on both real and personal property.

- ☐ true
- ☐ false

31) Relative to explicit taxes, implicit taxes are much easier to estimate.

- ☐ true
- ☐ false

32) Implicit taxes are indirect taxes on tax-favored assets.

- ☐ true
- ☐ false

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33) Dynamic forecasting does not take into consideration taxpayers' responses to a tax change when estimating tax revenues.

- ☐ true
- ☐ false

34) The income and substitution effects are two opposing effects that one could consider in static forecasting.

- ☐ true
- ☐ false

35) Horizontal equity is defined in terms of taxpayers in similar situations whereas vertical equity is defined in terms of taxpayers in different situations.

- ☐ true
- ☐ false

36) Regressive tax rate structures are typically considered to be vertically equitable.

- ☐ true
- ☐ false

37) Estimated tax payments are one way the federal income tax system addresses the "certainty" criterion in evaluating tax systems.

- ☐ true
- ☐ false

38) One must consider the "economy" criterion in evaluating tax systems from both the taxpayer's and the government's perspective.

- ☐ true
- ☐ false

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MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

39) Taxes influence which of the following decisions?

- A) Business decisions
- B) Personal decisions
- C) Political decisions
- D) Investment decisions
- E) All of the choices are correct.

40) Margaret was issued a \$150 speeding ticket. This is:

- A) a tax because payment is required by law.
- B) a tax because the payment is not related to any specific benefit received from the government agency collecting the ticket.
- C) not a tax because it is considered a fine intended to punish illegal behavior.
- D) a tax because it is imposed by a government agency.
- E) not a tax because Margaret could have avoided payment if she did not speed.

41) Which of the following is a tax?

- I. A 1 percent special sales tax for funding local road construction.
- II. A fee paid to the state for a license to practice as an attorney.
- III. An income tax imposed by Philadelphia on persons working within the city limits.
- IV. A special property assessment for installing a new water system in the taxpayer's neighborhood.

- A) Only I is correct.
- B) Only IV is correct.
- C) Only III is correct.
- D) III and IV are correct.
- E) I and III are correct.

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42) Which of the following is considered a tax?

- A) Tolls
- B) Parking meter fees
- C) Annual licensing fees
- D) A local surcharge paid on retail sales to fund public schools
- E) Entrance fees paid at national parks

43) Earmarked taxes are:

- A) taxes assessed only on certain taxpayers.
- B) taxes assessed to fund a specific purpose.
- C) taxes assessed for only a specific time period.
- D) taxes assessed to discourage less desirable behavior.
- E) None of the choices are correct.

44) Sin taxes are:

- A) taxes assessed by religious organizations.
- B) taxes assessed on certain illegal acts.
- C) taxes assessed to discourage less desirable behavior.
- D) taxes assessed to fund a specific purpose.
- E) None of the choices are correct.

45) To calculate a tax, you need to know:

- I. the tax base
- II. the taxing agency
- III. the tax rate
- IV. the purpose of the tax

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- A) Only I is correct.
 - B) Only IV is correct.
 - C) Only III is correct.
 - D) Items I through IV are correct.
 - E) I and III are correct.
- 46)** Which of the following is not an example of a graduated tax rate structure?
- A) Progressive tax rate structure
 - B) Proportional tax rate structure
 - C) U.S. federal income tax
 - D) Regressive tax rate structure
 - E) None of the choices are correct
- 47)** The difficulty in calculating a tax is typically in the determination of:
- A) the correct tax rate.
 - B) where to file the tax return.
 - C) the tax base.
 - D) the due date for the return.
 - E) None of the choices are correct.
- 48)** Which of the following is not one of the basic tax rate structures?
- A) Proportional
 - B) Equitable
 - C) Regressive
 - D) Progressive
 - E) All of these are different kinds of the basic tax rate structures.

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49) Marc, a single taxpayer, earns \$60,000 in taxable income and \$5,000 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for 2021, how much federal tax will he owe? **(Round your final answer to the nearest whole dollar.)** (Use tax rate schedule.)

- A) \$13,200
- B) \$8,949
- C) \$7,496
- D) \$6,802
- E) None of the choices are correct.

50) Marc, a single taxpayer, earns \$62,600 in taxable income and \$5,260 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for 2021, how much federal tax will he owe? **(Round your final answer to the nearest whole dollar.)** (Use tax rate schedule.)

- A) \$13,850
- B) \$9,521
- C) \$7,756
- D) \$7,374
- E) None of the choices are correct.

51) Marc, a single taxpayer, earns \$60,000 in taxable income and \$5,000 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for 2021, what is his average tax rate? **(Round your final answer to two decimal places.)** (Use tax rate schedule.)

- A) 14.91 percent
- B) 12.49 percent
- C) 11.33 percent
- D) 22.00 percent
- E) None of the choices are correct.

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52) Marc, a single taxpayer, earns \$64,600 in taxable income and \$5,460 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for 2021, what is his average tax rate? **(Round your final answer to two decimal places.)** (Use tax rate schedule.)

- A) 15.42 percent
- B) 13.00 percent
- C) 11.84 percent
- D) 22.00 percent
- E) None of the choices are correct.

53) Marc, a single taxpayer, earns \$60,000 in taxable income and \$5,000 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for year 2021, what is his effective tax rate? **(Round your final answer to two decimal places.)** (Use tax rate schedule.)

- A) 20.30 percent
- B) 13.77 percent
- C) 14.98 percent
- D) 11.53 percent
- E) None of the choices are correct.

54) Marc, a single taxpayer, earns \$62,400 in taxable income and \$5,240 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for year 2021, what is his effective tax rate? **(Round your final answer to two decimal places.)** (Use tax rate schedule.)

- A) 20.54 percent
- B) 14.01 percent
- C) 15.26 percent
- D) 11.77 percent
- E) None of the choices are correct.

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55) Marc, a single taxpayer, earns \$60,000 in taxable income and \$5,000 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for year 2021, what is his current marginal tax rate? (Use tax rate schedule.)

- A) 12.00 percent
- B) 22.00 percent
- C) 24.00 percent
- D) 32.00 percent
- E) None of the choices are correct.

56) Marc, a single taxpayer, earns \$99,000 in taxable income and \$3,100 in interest from an investment in city of Birmingham bonds. Using the U.S. tax rate schedule for year 2021, what is his current marginal tax rate?(Use tax rate schedule.)

- A) 14.00 percent
- B) 24.00 percent
- C) 26.00 percent
- D) 34.00 percent
- E) None of the choices are correct.

57) The city of Granby, Colorado, recently enacted a 1.5 percent surcharge on vacation cabin rentals that will fund the city's new elementary school. This surcharge is an example of _____.

- A) a sin tax to discourage undesirable behavior
- B) a government fine
- C) an earmarked tax
- D) a sin tax to discourage undesirable behavior and an earmarked tax
- E) None of the choices are correct

58) The state of Georgia recently increased its tax on a carton of cigarettes by \$2.00. What type of tax is this?

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- A) A sin tax
- B) An excise tax
- C) It is not a tax; it is a fine
- D) A sin tax and an excise tax are correct.
- E) None of the choices are correct.

59) Which of the following is false?

- A) A proportional tax rate structure imposes a constant tax rate while a progressive tax rate structure imposes an increasing marginal rate related to the tax base.
- B) The average tax rate changes under a proportional tax rate structure, but it is static for a progressive tax rate system.
- C) An example of a proportional tax is the tax on gasoline.
- D) An example of a progressive tax is the federal tax on gifts.
- E) None of the choices are correct.

60) Which of the following is true?

- A) A regressive tax rate structure imposes an increasing marginal tax rate as the tax base increases.
- B) Regressive tax structures are the most common tax rate structure.
- C) An example of a regressive tax is an excise tax.
- D) In terms of effective tax rates, a sales tax can be viewed as a regressive tax.
- E) None of the choices are correct.

61) The ultimate economic burden of a tax is best captured by:

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- A) the marginal tax rate.
 - B) the effective tax rate.
 - C) the average tax rate.
 - D) the proportional tax rate.
 - E) None of the choices are correct.
- 62) Which of the following taxes represents the largest portion of U.S. federal tax revenues?
- A) Employment taxes
 - B) Corporate income taxes
 - C) Individual income taxes
 - D) Estate and gift taxes
 - E) None of the choices are correct.
- 63) Which of the following represents the largest percentage of average state tax revenue?
- A) Sales tax
 - B) Individual income tax
 - C) Other
 - D) Property tax
 - E) None of the choices are correct.
- 64) Which of the following is true regarding use taxes?
- A) A use tax is relatively easy to enforce compared to a sales tax.
 - B) Use taxes attempt to eliminate any tax advantage of purchasing goods out of state.
 - C) Use taxes encourage taxpayers to buy goods out of state to avoid paying sales tax in their home state.
 - D) A use tax is generally a progressive tax.
 - E) None of the choices are correct.

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65) Which of the following is true regarding real property taxes and personal property taxes?

- A) Personal property taxes are assessed on permanent structures and land.
- B) Real property taxes are assessed on cars and boats.
- C) All U.S. states currently impose personal property taxes.
- D) Real property taxes are generally easier to administer than personal property taxes.
- E) None of the choices are correct.

66) Which of the following statements is true?

- A) Municipal bond interest is subject to explicit federal tax.
- B) Municipal bond interest is subject to implicit tax.
- C) Municipal bonds typically pay a higher interest rate than corporate bonds with similar risk.
- D) All of these statements are true.
- E) None of these statements are true.

67) The concept of tax sufficiency:

- A) suggests the need for tax forecasting.
- B) suggests that a government should estimate how taxpayers will respond to changes in the current tax structure.
- C) suggests that a government should consider the income and substitution effects when changing tax rates.
- D) All of the choices are correct.
- E) None of the choices are correct.

68) The substitution effect:

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A) predicts that taxpayers will work harder to pay for consumer products when tax rates increase.

B) is one of the effects considered in static forecasting.

C) results in the government collecting more aggregate tax revenue than under the income effect.

D) is typically more descriptive for taxpayers with lower disposable income.

E) None of the choices are correct.

69) Which of the following federal government actions would make sense if a tax system fails to provide sufficient tax revenue?

A) Only issue treasury bonds.

B) Only cut funding to various federal projects.

C) Only increase federal spending.

D) Issue treasury bonds and cut funding to various federal projects but not increase federal spending.

E) None of the choices are correct.

70) Geronimo files his tax return as a head of household for year 2021. If his taxable income is \$72,000, what is his average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

A) 14.08 percent

B) 16.09 percent

C) 11.45 percent

D) 22.00 percent

E) None of the choices are correct.

71) Geronimo files his tax return as a head of household for year 2021. If his taxable income is \$75,800, what is his average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

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- A) 14.47 percent
- B) 16.48 percent
- C) 11.84 percent
- D) 22.00 percent
- E) None of the choices are correct.

72) Al believes that SUVs have negative social and environmental effects because of their increased carbon monoxide emissions. He proposes eliminating sales taxes on smaller automobiles in favor of higher sales taxes levied on SUVs. Al performs some calculations and comes to the conclusion that based on the current number of SUVs owned in the U.S., exactly the same amount of total sales tax will be collected under his reformed system. Which of the following concepts explains why Al's idea may not work?

- A) The ability to pay principle
- B) Horizontal equity
- C) Substitution effect
- D) Vertical equity
- E) None of the choices are correct.

73) Which of the following would not be a failure of the horizontal equity concept?

- A) Two taxpayers with identical income pay different amounts of tax because one taxpayer's income includes tax-exempt interest.
- B) Two taxpayers pay different property tax amounts on similar plots of land (i.e., same value) because one plot of land is used to raise crops.
- C) Two taxpayers pay different amounts of estate tax because one taxpayer's estate is worth significantly more.
- D) All of the choices are correct.
- E) None of the choices are correct.

74) Which of the following is true regarding tax-advantaged assets?

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- A) They are typically subject to excise taxes to account for their low explicit taxes.
- B) A corporate bond is typically considered a tax-advantaged asset.
- C) They are often subject to implicit taxes.
- D) A corporate bond is typically considered a tax-advantaged asset. They are often subject to implicit taxes but they are not typically subject to excise taxes to account for their low explicit taxes.
- E) None of the choices are correct.

75) Congress recently approved a new, smaller budget for the IRS. What taxation concept evaluates the cost of administering our tax law?

- A) Convenience
- B) Economy
- C) Certainty
- D) Equity
- E) None of the choices are correct.

76) Employers often withhold federal income taxes directly from workers' paychecks. This is an example of which principle in practice?

- A) Convenience
- B) Certainty
- C) Economy
- D) Equity
- E) None of the choices are correct.

77) Which of the following principles encourages a vertically equitable tax system?

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- A) Pay-as-you-go
- B) Economy
- C) Income effects
- D) Ability to pay principle
- E) None of the choices are correct.

78) Manny, a single taxpayer, earns \$65,000 per year in taxable income and an additional \$12,000 per year in city of Boston bonds. What is Manny's current marginal tax rate for 2021? (Use tax rate schedule.)

- A) 11.38 percent
- B) 12.00 percent
- C) 13.05 percent
- D) 15.45 percent
- E) None of the choices are correct.

79) Manny, a single taxpayer, earns \$65,600 per year in taxable income and an additional \$12,060 per year in city of Boston bonds. What is Manny's current marginal tax rate for 2021? (Use tax rate schedule.)

- A) 11.23 percent
- B) 12.00 percent
- C) 12.93 percent
- D) 15.34 percent
- E) None of the choices are correct.

80) Manny, a single taxpayer, earns \$65,000 per year in taxable income and an additional \$12,000 per year in city of Boston bonds.

If Manny earns an additional \$35,000 in taxable income in 2021, what is his marginal tax rate on this income? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

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- A) 17.41 percent
- B) 22.00 percent
- C) 22.78 percent
- D) 24.00 percent
- E) None of the choices are correct.

81) Manny, a single taxpayer, earns \$68,800 per year in taxable income and an additional \$12,380 per year in city of Boston bonds.

If Manny earns an additional \$39,000 in taxable income in 2021, what is his marginal tax rate on this income? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 17.73 percent
- B) 22.00 percent
- C) 23.10 percent
- D) 24.00 percent
- E) None of the choices are correct.

82) Leonardo, who is married but files separately, earns \$80,000 of taxable income. He also has \$15,000 in city of Tulsa bonds. His wife, Theresa, earns \$50,000 of taxable income.

If Leonardo earned an additional \$30,000 of taxable income this year, what would be the marginal tax rate on the extra income for 2021? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 22.00 percent
- B) 18.81 percent
- C) 24.00 percent
- D) 23.58 percent
- E) None of the choices are correct.

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83) Leonardo, who is married but files separately, earns \$82,000 of taxable income. He also has \$17,000 in city of Tulsa bonds. His wife, Theresa, earns \$52,000 of taxable income.

If Leonardo earned an additional \$32,000 of taxable income this year, what would be the marginal tax rate on the extra income for 2021? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 22.00 percent
- B) 18.96 percent
- C) 24.00 percent
- D) 23.73 percent
- E) None of the choices are correct.

84) Leonardo, who is married but files separately, earns \$80,000 of taxable income. He also has \$15,000 in city of Tulsa bonds. His wife, Theresa, earns \$50,000 of taxable income.

If Leonardo instead had \$30,000 of additional tax deductions for 2021, his marginal tax rate on the deductions would be: (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 12.00 percent
- B) 23.62 percent
- C) 22.00 percent
- D) 24.00 percent
- E) None of the choices are correct.

85) Leonardo, who is married but files separately, earns \$85,400 of taxable income. He also has \$19,600 in city of Tulsa bonds. His wife, Theresa, earns \$54,600 of taxable income.

If Leonardo instead had \$32,300 of additional tax deductions for 2021, his marginal tax rate on the deductions would be: (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

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- A) 12.00 percent
- B) 24.05 percent
- C) 22.00 percent
- D) 24.43 percent
- E) None of the choices are correct.

86) Leonardo, who is married but files separately, earns \$80,000 of taxable income. He also has \$15,000 in city of Tulsa bonds. His wife, Theresa, earns \$50,000 of taxable income.

If Leonardo and his wife file married filing jointly in 2021, what would be their average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 12.00 percent
- B) 22.00 percent
- C) 15.46 percent
- D) 19.47 percent
- E) None of the choices are correct.

87) Leonardo, who is married but files separately, earns \$72,000 of taxable income. He also has \$20,000 in city of Tulsa bonds. His wife, Theresa, earns \$55,000 of taxable income.

If Leonardo and his wife file married filing jointly in 2021, what would be their average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 12.00 percent
- B) 22.00 percent
- C) 15.30 percent
- D) 19.31 percent
- E) None of the choices are correct.

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88) Leonardo, who is married but files separately, earns \$80,000 of taxable income. He also has \$15,000 in city of Tulsa bonds. His wife, Theresa, earns \$50,000 of taxable income.

If Leonardo and his wife are married filing jointly in 2021, what is Leonardo and Theresa's effective tax rate for 2021? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 12.00 percent
- B) 15.63 percent
- C) 19.41 percent
- D) 22.00 percent
- E) None of the choices are correct.

89) Leonardo, who is married but files separately, earns \$71,000 of taxable income. He also has \$19,600 in city of Tulsa bonds. His wife, Theresa, earns \$54,600 of taxable income.

If Leonardo and his wife are married filing jointly in 2021, what is Leonardo and Theresa's effective tax rate for 2021? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 12.00 percent
- B) 14.94 percent
- C) 18.72 percent
- D) 22.00 percent
- E) None of the choices are correct.

90) Leonardo, who is married but files separately, earns \$80,000 of taxable income. He also has \$15,000 in city of Tulsa bonds. His wife, Theresa, earns \$50,000 of taxable income.

How much money would Leonardo and Theresa save if they file jointly instead of separately for 2021? (Use tax rate schedule.)

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- A) Nothing
- B) \$103.50
- C) \$309.75
- D) \$13,497
- E) None of the choices are correct.

91) Leonardo, who is married but files separately, earns \$68,000 of taxable income. He also has \$18,400 in city of Tulsa bonds. His wife, Theresa, earns \$53,400 of taxable income.

How much money would Leonardo and Theresa save if they file jointly instead of separately for 2021? (Use tax rate schedule.)

- A) Nothing
- B) \$200.40
- C) \$600.45
- D) \$11,605.00
- E) None of the choices are correct.

92) If Susie earns \$750,000 in taxable income, how much tax will she pay as a single taxpayer for 2021? (Use tax rate schedule.)

- A) \$214,022
- B) \$277,500
- C) \$241,572
- D) \$197,918
- E) None of the choices are correct.

93) If Susie earns \$764,000 in taxable income, how much tax will she pay as a single taxpayer for 2021? (Use tax rate schedule.)

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- A) \$219,202
- B) \$282,680
- C) \$246,752
- D) \$203,098
- E) None of the choices are correct.

94) If Susie earns \$750,000 in taxable income and files as head of household for year 2021, what is Susie's average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 32.02 percent
- B) 32.21 percent
- C) 35.00 percent
- D) 37.00 percent
- E) None of the choices are correct.

95) If Susie earns \$798,000 in taxable income and files as head of household for year 2021, what is Susie's average tax rate? (Use tax rate schedule.) **(Round your final answer to two decimal places.)**

- A) 32.32 percent
- B) 32.51 percent
- C) 35.00 percent
- D) 37.00 percent
- E) None of the choices are correct.

96) Eliminating the current system of withholding income taxes directly from employee paychecks would:

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- A) violate the convenience criterion of federal taxation.
- B) increase the rate of compliance.
- C) make collection of federal income taxes easier.
- D) All of the choices are correct.
- E) None of the choices are correct.

97) Curtis invests \$250,000 in a city of Athens bond that pays 7 percent interest. Alternatively, Curtis could have invested the \$250,000 in a bond recently issued by Initech, Incorporated that pays 9percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

What is Curtis's after-tax rate of return on the city of Athens bond?

- A) 5.32 percent
- B) 6.84 percent
- C) 7.00 percent
- D) 9.00 percent
- E) None of the choices are correct.

98) Curtis invests \$250,000 in a city of Athens bond that pays 4.5 percent interest. Alternatively, Curtis could have invested the \$250,000 in a bond recently issued by Initech, Incorporated that pays 6 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

What is Curtis's after-tax rate of return on the city of Athens bond?

- A) 2.82 percent
- B) 4.34 percent
- C) 4.50 percent
- D) 6.50 percent
- E) None of the choices are correct.

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99) Curtis invests \$250,000 in a city of Athens bond that pays 7 percent interest. Alternatively, Curtis could have invested the \$250,000 in a bond recently issued by Initech, Incorporated that pays 9 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

How much implicit tax would Curtis pay on the city of Athens bond?

- A) \$17,500
- B) \$1,400
- C) \$1,300
- D) \$5,000
- E) None of the choices are correct.

100) Curtis invests \$350,000 in a city of Athens bond that pays 5.50 percent interest. Alternatively, Curtis could have invested the \$350,000 in a bond recently issued by Initech, Incorporated that pays 8.00 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

How much implicit tax would Curtis pay on the city of Athens bond?

- A) \$19,250.00
- B) \$1,299.00
- C) \$1,199.00
- D) \$8,750.00
- E) None of the choices are correct.

101) Curtis invests \$250,000 in a city of Athens bond that pays 7 percent interest. Alternatively, Curtis could have invested the \$250,000 in a bond recently issued by Initech, Incorporated that pays 9 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

If Curtis invested in the Initech, Incorporated bonds, what would be his after-tax rate of return from this investment?

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- A) 5.32 percent
- B) 7.00 percent
- C) 6.84 percent
- D) 2.52 percent
- E) None of the choices are correct.

102) Curtis invests \$675,000 in a city of Athens bond that pays 9.00 percent interest. Alternatively, Curtis could have invested the \$675,000 in a bond recently issued by Initech, Incorporated that pays 10.50 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

If Curtis invested in the Initech, Incorporated bonds, what would be his after-tax rate of return from this investment?

- A) 6.46 percent
- B) 9.00 percent
- C) 7.98 percent
- D) 4.66 percent
- E) None of the choices are correct.

103) Curtis invests \$250,000 in a city of Athens bond that pays 7 percent interest. Alternatively, Curtis could have invested the \$250,000 in a bond recently issued by Initech, Incorporated that pays 9 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

How much explicit tax would Curtis incur on interest earned on the Initech, Incorporated bond?

- A) \$17,500
- B) \$5,400
- C) \$4,200
- D) \$12,600
- E) None of the choices are correct.

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104) Curtis invests \$225,000 in a city of Athens bond that pays 4.25 percent interest. Alternatively, Curtis could have invested the \$225,000 in a bond recently issued by Initech, Incorporated that pays 5.50 percent interest with similar risk as the city of Athens bond. Assume that Curtis's marginal tax rate is 24 percent.

How much explicit tax would Curtis incur on interest earned on the Initech, Incorporated bond?

- A) \$9,805.00
- B) \$2,970.00
- C) \$2,295.00
- D) \$6,567.50
- E) None of the choices are correct.

105) Jackson has the choice to invest in city of Mitchell bonds or Sundial, Incorporated corporate bonds that pay 10 percent interest. Jackson is a single taxpayer who earns \$55,000 annually. Assume that the city of Mitchell bonds and the Sundial, Incorporated bonds have similar risk.

What interest rate would the city of Mitchell have to pay in order to make Jackson indifferent between investing in the city of Mitchell and the Sundial, Incorporated bonds for 2021? (Use tax rate schedule.)

- A) 7.80 percent
- B) 10.00 percent
- C) 8.00 percent
- D) 7.20 percent
- E) None of the choices are correct.

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106) Jackson has the choice to invest in city of Mitchell bonds or Sundial, Incorporated corporate bonds that pay 8.4 percent interest. Jackson is a single taxpayer who earns \$75,200 annually. Assume that the city of Mitchell bonds and the Sundial, Incorporated bonds have similar risk.

What interest rate would the city of Mitchell have to pay in order to make Jackson indifferent between investing in the city of Mitchell and the Sundial, Incorporated bonds for 2021? (Use tax rate schedule.)

- A) 6.55 percent
- B) 8.75 percent
- C) 6.75 percent
- D) 5.95 percent
- E) None of the choices are correct.

107) Jackson has the choice to invest in city of Mitchell bonds or Sundial, Incorporated corporate bonds that pay 10 percent interest. Jackson is a single taxpayer who earns \$55,000 annually. Assume that the city of Mitchell bonds and the Sundial, Incorporated bonds have similar risk.

Assume the original facts as given except that Jackson is a head of household taxpayer and the city of Mitchell pays interest of 8 percent. How would you advise Jackson to invest his money?

- A) Invest in Sundial, Incorporated bonds because their explicit tax is greater than the implicit tax on city of Mitchell bonds.
- B) Invest in city of Mitchell bonds because their implicit tax is greater than the explicit tax on Sundial, Incorporated bonds.
- C) Invest in Sundial, Incorporated bonds because their explicit tax is less than the implicit tax on city of Mitchell bonds.
- D) Invest in city of Mitchell bonds because their implicit tax is less than the explicit tax on Sundial, Incorporated bonds.
- E) None of the choices are correct.

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ESSAY. Write your answer in the space provided or on a separate sheet of paper.

108) The following are a series of tables that may be referred to in several questions throughout your test. Please refer to these tables as needed or as directed. **2021 Tax Rate Schedules Individuals Schedule X-Single**

If taxable income is over:	But not over:	The tax is:
\$ 0	\$ 9,950	10% of taxable income
\$ 9,950	\$ 40,525	\$995 plus 12% of the excess over \$9,950
\$ 40,525	\$ 86,375	\$4,664 plus 22% of the excess over \$40,525
\$ 86,375	\$ 164,925	\$14,751 plus 24% of the excess over \$86,375
\$ 164,925	\$ 209,425	\$33,603 plus 32% of the excess over \$164,925
\$ 209,425	\$ 523,600	\$47,843 plus 35% of the excess over \$209,425
\$ 523,600	—	\$157,804.25 plus 37% of the excess over \$523,600

Schedule Y-1-Married Filing Jointly or Qualifying Widow(er)

If taxable income is over:	But not over:	The tax is:
\$ 0	\$ 19,900	10% of taxable income
\$ 19,900	\$ 81,050	\$1,990 plus 12% of the excess over \$19,900
\$ 81,050	\$ 172,750	\$9,328 plus 22% of the excess over \$81,050
\$ 172,750	\$ 329,850	\$29,502 plus 24% of the excess over \$172,750
\$ 329,850	\$ 418,850	\$67,206 plus 32% of the excess over \$329,850
\$ 418,850	\$ 628,300	\$95,686 plus 35% of the excess over \$418,850
\$ 628,300	—	\$168,993.50 plus 37% of the excess over \$628,300

Schedule Z-Head of Household

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If taxable income is over:	But not over:	The tax is:
\$ 0	\$ 14,200	10% of taxable income
\$ 14,200	\$ 54,200	\$1,420 plus 12% of the excess over \$14,200
\$ 54,200	\$ 86,350	\$6,220 plus 22% of the excess over \$54,200
\$ 86,350	\$ 164,900	\$13,293 plus 24% of the excess over \$86,350
\$ 164,900	\$ 209,400	\$32,145 plus 32% of the excess over \$164,900
\$ 209,400	\$ 523,600	\$46,385 plus 35% of the excess over \$209,400
\$ 523,600	—	\$156,355 plus 37% of the excess over \$523,600

Schedule Y-2-Married Filing Separately

If taxable income is over:	But not over:	The tax is:
\$ 0	\$ 9,950	10% of taxable income
\$ 9,950	\$ 40,525	\$995 plus 12% of the excess over \$9,950
\$ 40,525	\$ 86,375	\$4,664 plus 22% of the excess over \$40,525
\$ 86,375	\$ 164,925	\$14,751 plus 24% of the excess over \$86,375
\$ 164,925	\$ 209,425	\$33,603 plus 32% of the excess over \$164,925
\$ 209,425	\$ 314,150	\$47,843 plus 35% of the excess over \$209,425
\$ 314,150	—	\$84,496.75 plus 37% of the excess over \$314,150

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109) Oswald is beginning his first tax course and does not really have a solid understanding of the role that taxes play in various decisions. Please describe for Oswald the various types of decisions that taxes may influence.

110) Determine if each of the following is a tax and why or why not.

- a. \$2.50 toll paid on the Florida Turnpike
- b. \$300 ticket for reckless driving
- c. 1 percent local surcharge on hotel rooms to fund public roadways
- d. 2 percent city surcharge on wages earned in the city of Philadelphia

111) Although the primary purpose of a tax system is to raise revenue, Congress uses the federal tax system for other purposes as well. Describe the other ways in which Congress uses the federal tax system. Be specific.

112) There are several different types of tax rates that taxpayers might use in different contexts. Describe each tax rate and how a taxpayer might use it.

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113) Ricky and Lucy are debating several types of taxes. Their debate has focused on the different types of tax rate structures and whether they are "fair." Please define each tax rate structure, provide examples of each structure, and discuss how each structure may be viewed with respect to vertical equity.

114) Bart is contemplating starting his own business. His new business would operate as a sole proprietorship and would require hiring several employees. Describe the employment-related taxes that Bart should be aware of as he starts his new business as a self-employed business owner.

115) Raquel recently overheard two journalism students discussing the merits of the federal tax system. One student offered as an example of unfairness a well-known politician's spouse, who paid little income tax, as most of the spouse's income was earned in the form of municipal bond interest. What type of taxes is the journalism student considering in his example? What type of taxes is he ignoring? Define each type of tax. What role does each type of tax play in calculating relative tax burdens? What role does each type of tax play in evaluating fairness?

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116) Mandy, the mayor of Bogart and a strong advocate of a clean downtown, is proposing an increase in the city sales tax from 7 percent to 50 percent on all packs of chewing gum purchased in Bogart. Based on the current gum sales, Mandy estimates that this tax will actually reduce the tax revenue on gum sales. What type of forecasting is Mandy using to derive her tax revenue estimates? What "effect" is her estimate based on? Does this necessarily imply that Mandy will be happy given her desire to have a clean downtown?

117) Milton and Rocco are having a heated debate regarding a national sales tax. Milton argues that a national sales tax is a proportional, vertically equitable tax. Rocco argues that a national sales tax would be a regressive, vertically inequitable tax. Explain both sides of the argument.

118) Evaluate the U.S. federal tax system on the certainty and economy criteria.

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119) Jonah, a single taxpayer, earns \$150,000 in taxable income and \$10,000 in interest from an investment in city of Denver bonds. Using the U.S. tax rate schedule for year 2021, how much federal tax will he owe? What is his average tax rate? What is his effective tax rate? What is his current marginal tax rate? If Jonah earned an additional \$40,000 of taxable income, what is his marginal tax rate on this income? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

120) Jonah, a single taxpayer, earns \$151,400 in taxable income and \$11,400 in interest from an investment in city of Denver bonds. Using the U.S. tax rate schedule for year 2021, how much federal tax will he owe? What is his average tax rate? What is his effective tax rate? What is his current marginal tax rate? If Jonah earned an additional \$41,400 of taxable income, what is his marginal tax rate on this income? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

121) Heather, a single taxpayer who files as a head of household, earns \$60,000 in taxable income and \$5,000 in interest from an investment in city of Oxford bonds. Using the U.S. tax rate schedule for year 2021, how much federal tax will she owe? What is her average tax rate? What is her effective tax rate? What is her current marginal tax rate? If Heather has an additional \$20,000 of tax deductions, what is her marginal tax rate on these deductions? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

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122) Heather, a single taxpayer who files as a head of household, earns \$63,200 in taxable income and \$8,200 in interest from an investment in city of Oxford bonds. Using the U.S. tax rate schedule for year 2021, how much federal tax will she owe? What is her average tax rate? What is her effective tax rate? What is her current marginal tax rate? If Heather has an additional \$23,200 of tax deductions, what is her marginal tax rate on these deductions? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

123) Fred and Wilma, married taxpayers, earn \$100,000 in taxable income and \$20,000 in interest from an investment in city of Bedrock bonds. Using the U.S. tax rate schedule for married filing jointly for year 2021, how much federal tax will they owe? What is their average tax rate? What is their effective tax rate? What is their current marginal tax rate? If Fred and Wilma earn an additional \$40,000 of taxable income, what is their marginal tax rate on this income? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

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124) Nick and Jessica are married taxpayers that file married filing separately. Jessica earns \$250,000 of taxable income per year. Nick earns \$130,000 of taxable income per year. Using the appropriate U.S. tax rate schedule for year 2021, how much tax does each of them pay? What are their marginal and average tax rates? How much tax would they save, if any, if they filed jointly? **(Round the tax rates to two decimal places, e.g., .12345 as 12.35 percent.)** (Use tax rate schedule.)

125) Ariel invests \$50,000 in a city of Las Vegas bond that pays 5 percent interest. Alternatively, Ariel could have invested the \$50,000 in a bond recently issued by Jittery Joe's, Incorporated that pays 8 percent interest with similar non-tax characteristics as the city of Las Vegas bond (e.g., similar risk). Assume that Ariel's marginal tax rate is 24 percent. What is her after-tax rate of return for the city of Las Vegas bond? For the Jittery Joe's, Incorporated bond? How much explicit tax does Ariel pay on the city of Las Vegas bond? How much implicit tax does she pay on the city of Las Vegas bond? How much explicit tax would she have paid on the Jittery Joe's, Incorporated bond? Which bond should she choose?

126) Nelson has the choice between investing in a city of Fruithurst bond at 4 percent or a J.B. Ribs, Incorporated bond at 6.5 percent. Assuming that both bonds have the same nontax characteristics and that Nelson has a 40 percent marginal tax rate, in which bond should he invest? What interest rate offered by J.B. Ribs, Incorporated would make Nelson indifferent between investing in the two bonds?

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127) Nelson has the choice between investing in a city of Fruithurst bond at 6 percent or a J.B. Ribs, Incorporated bond at 7.5 percent. Assuming that both bonds have the same nontax characteristics and that Nelson has a 40 percent marginal tax rate, in which bond should he invest? What interest rate offered by J.B. Ribs, Incorporated would make Nelson indifferent between investing in the two bonds?

128) Namratha has the choice between investing in a city of Watkinsville bond at 4.5 percent or a Moe's, Incorporated bond at 7 percent. Assuming that both bonds have the same nontax characteristics and that Namratha has a 32 percent marginal tax rate, in which bond should she invest? What interest rate offered by Moe's, Incorporated would make Namratha indifferent between investing in the two bonds?

129) Given the following tax structure, what is the minimum tax that would need to be assessed on Lizzy to make the tax progressive with respect to average tax rates? What is the minimum tax that would need to be assessed on Lizzy to make the tax progressive with respect to effective tax rates?

Taxpayer	Salary	Muni-Bond Interest	Total Tax
Mort	20,000	5,000	4,000
Lizzy	80,000	30,000	???

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130) Given the following tax structure, what is the minimum tax that would need to be assessed on Lizzy to make the tax progressive with respect to average tax rates? What is the minimum tax that would need to be assessed on Lizzy to make the tax progressive with respect to effective tax rates?

Taxpayer	Salary	Muni-Bond Interest	Total Tax
Mort	125,000	31,250	25,000
Lizzy	122,000	51,000	???

131) Given the following tax structure, what is the minimum tax that would need to be assessed on Dora to make the tax progressive with respect to average tax rates? What is the minimum tax that would need to be assessed on Dora to make the tax progressive with respect to effective tax rates?

Taxpayer	Salary	Muni-Bond Interest	Total Tax
Diego	30,000	10,000	1,500
Dora	50,000	5,000	???

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132) Junior earns \$80,000 taxable income as a regional circuit stock car driver and is taxed at an average rate of 25 percent (i.e., \$20,000 of tax). If Congress increases the income tax rate such that Junior's average tax rate increases from 25 percent to 30 percent, how much more income tax will he pay assuming that the income effect is larger than the substitution effect? What effect will this tax rate change have on the tax base and tax collected? What will happen to the government's tax revenues if Junior chooses to spend more time pursuing his other passions besides work (e.g., earns only \$60,000 in taxable income) in response to the tax rate change? What is the term that describes this type of reaction to a tax rate increase? **(Round your answers to two decimal places.)**

133) Given the following tax structure, what amount of tax would need to be assessed on Carrie to make the tax horizontally equitable? What is the minimum tax that Simon should pay to make the tax structure vertically equitable based on Fantasia's tax rate? This would result in what type of tax rate structure?

Taxpayer	Salary	Total Tax
Fantasia	20,000	1,500
Simon	30,000	2,000
Carrie	20,000	???

134) Consider the following tax rate structures. Is it horizontally equitable? Why or why not? Is it vertically equitable? Why or why not?

Taxpayer	Salary	Total Tax
Lucy	40,000	\$4,500
Ricky	20,000	\$4,500

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Ethel	40,000	\$4,500
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135) Consider the following tax rate structure. Is it horizontally equitable? Why or why not? Is it vertically equitable? Why or why not?

Taxpayer	Salary	Total Tax
Moe	20,000	1,500
Larry	40,000	8,500
Curly	100,000	25,500

136) Jed Clampett is expanding his family-run beer distributorship into Georgia or Tennessee. His parents began the business many years ago and now three generations of Clampetts work in the family business. Jed will relocate the entire family (his parents, spouse, children, etc.) to either state after the move. What types of taxes may influence his decision of where to locate his business? What nontax factors may influence the decision?

137) Congress would like to increase tax revenues by 20 percent. Assume that the average taxpayer in the United States earns \$80,000 and pays an average tax rate of 17.5 percent. If the income effect is larger than the substitution effect, what average tax rate will result in a 20 percent increase in tax revenues? This is an example of what type of forecasting?

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138) Congress would like to increase tax revenues by 35 percent. Assume that the average taxpayer in the United States earns \$58,000 and pays an average tax rate of 12 percent. If the income effect is larger than the substitution effect, what average tax rate will result in a 35 percent increase in tax revenues? This is an example of what type of forecasting?

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Answer Key

Test name: CH01

- 1) FALSE
- 2) TRUE
- 3) FALSE
- 4) FALSE
- 5) FALSE

A tax is a payment required by a government that is unrelated to any specific benefit or service received by the government.

- 6) FALSE
- 7) TRUE
- 8) FALSE
- 9) FALSE
- 10) TRUE
- 11) FALSE

Tax equals the tax base multiplied by the tax rate.

- 12) TRUE
- 13) FALSE
- 14) TRUE
- 15) FALSE
- 16) TRUE
- 17) TRUE
- 18) TRUE
- 19) FALSE
- 20) FALSE
- 21) TRUE

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22) TRUE

23) FALSE

The most significant tax assessed by the U.S. government is the income tax.

24) FALSE

The 16th amendment removed all doubt that a federal income tax was allowed under the U.S. Constitution and was ratified in February 1913.

25) TRUE

26) TRUE

27) FALSE

Excise taxes are levied on the quantity of products purchased.

28) FALSE

29) FALSE

30) TRUE

31) FALSE

32) TRUE

33) FALSE

34) FALSE

35) TRUE

36) FALSE

37) FALSE

38) TRUE

39) E

40) C

41) E

A tax is a payment required by a government that is unrelated to any specific benefit or service received from the government.

42) D

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43) B

44) C

Surcharges on alcohol and tobacco products are examples of "sin taxes".

45) E

46) B

A proportional tax rate structure, also known as a flat tax, imposes a constant tax rate throughout the tax base.

47) C

48) B

49) B

$\$8,949 = \$4,664 + 0.22 (\$60,000 - \$40,525)$ —rounded to the nearest dollar

50) B

$\$9,521 = \$4,664 + 0.22 (\$62,600 - \$40,525)$ —rounded to the nearest dollar.

51) A

$14.91\% = \$8,948.5 / \$60,000$

52) A

$15.42\% = \$9,960.5 / \$64,600$

53) B

$13.77\% = \$8,948.5 / (\$60,000 + \$5,000)$

54) B

$14.01\% = \$9,476.5 / (\$62,400 + \$5,240)$

55) B

See IRS rate schedule for single taxpayers.

56) B

See IRS rate schedule for single taxpayers.

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57) C

58) D

59) B

60) D

61) B

62) C

See Exhibit 1-4 in textbook.

63) B

See Exhibit 1-5 in textbook.

64) B

65) D

66) B

67) D

68) E

69) D

70) A

$$[\$6,220 + ((\$72,000 - \$54,200) \times 0.22)] / \$72,000 = 14.08\%$$

71) A

$$[\$6,220 + ((\$75,800 - \$54,200) \times 0.22)] / \$75,800 = 14.47\%.$$

72) C

73) C

74) C

75) B

76) A

77) D

78) E

See IRS tax schedule for single filers; 22 percent.

79) E

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See IRS tax schedule for single filers; 22.00 percent.

80) C

$$(\$18,021 - \$10,049) / (\$100,000 - \$65,000) = 22.78\%$$

81) C

$$(\$19,893 - \$10,885) / (\$107,800 - \$68,800) = 23.10\%$$

82) D

$$(\$20,421 - \$13,349) / (\$110,000 - \$80,000) = 23.58\%$$

83) D

$$(\$21,381.00 - \$13,789.00) / (\$114,000 - \$82,000) = 23.73\%$$

84) C

$$(\$6,749 - \$13,349) / (\$50,000 - \$80,000) = 22.00\%$$

85) C

$$(\$7,431 - \$14,537) / (\$53,100 - \$85,400) = 22.00\%$$

86) C

$$\$20,097 / \$130,000 = 15.46\%$$

87) C

$$\$19,437 / \$127,000 = 15.30\%$$

88) E

$$\$20,097 / (\$80,000 + \$50,000 + \$15,000) = 13.86\%$$

89) E

$$\$19,129 / (\$71,000 + \$54,600 + \$19,600) = 13.17\%$$

90) A

$$\$20,097 \text{ both separate and joint} = \$0$$

91) A

$$\$18,205 \text{ both separate and joint} = \$0$$

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92) C

$$\$157,804.25 + 0.37(\$750,000 - \$523,600) = \$241,572$$

93) C

$$\$157,804.25 + 0.37 (\$764,000 - \$523,600) = \$246,752$$

94) A

$$[\$156,355 + 0.37 (\$750,000 - \$523,600)] / \$750,000 = 32.02\%$$

95) A

$$[\$156,355 + 0.37 (\$798,000 - \$523,600)] / \$798,000 = 32.32\%$$

96) A

97) C

The after-tax rate of return is the same as the pretax rate because the interest from municipal bonds is tax-exempt.

98) C

The after-tax rate of return is the same as the pretax rate because the interest from municipal bonds is tax-exempt.

99) D

The implicit tax equals the difference in pretax income earned from a similar (same risk) bond. In this case: $(\$250,000 \times 0.09) - (\$250,000 \times 0.07) = \$5,000$.

100) D

The implicit tax equals the difference in pretax income earned from a similar (same risk) bond. In this case: $(\$350,000 \times 0.08) - (\$350,000 \times 0.06) = \$8,750.00$.

101) C

$$[(1 - 0.24) \times (\$250,000 \times 0.09)] / \$250,000 = 0.0684$$

102) C

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$$[(1 - 0.24) \times (\$675,000 \times 0.105)] / \$675,000 = 0.0798$$

103) B

$$(\$250,000 \times 0.09) \times 0.24 = \$5,400$$

104) B

$$(\$225,000 \times 0.0550) \times 0.24 = \$2,970.00$$

105) A

Jackson's marginal tax rate is 22 percent, so his after-tax rate of return on the Sundial, Incorporated bonds would be 7.8 percent. Therefore, the city of Mitchell must pay 7.8 percent to make Jackson indifferent between the two bonds.

106) A

Jackson's marginal tax rate is 22 percent, so his after-tax rate of return on the Sundial, Incorporated bonds would be 6.55 percent. Therefore, the city of Mitchell must pay 6.55 percent to make Jackson indifferent between the two bonds.

107) D

Implicit tax on city of Mitchell bonds: $10\% - 8\% = 2\%$. Explicit tax on Sundial, Incorporated bonds: $10\% \times 0.22 = 2.2\%$.

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109) Taxes are a part of everyday life and have a financial effect on many of the major personal decisions that individuals face (e.g., investment decisions, evaluating alternative job offers, saving for education expenses, gift or estate planning, etc.). Taxes play an equally important role in fundamental business decisions such as the following:

- What organizational form should a business use? Where should the business locate?
- How should business acquisitions be structured?
- How should employees be compensated? What is the appropriate mix of debt and equity for the business?
- Should the business rent or own equipment and property?
- How should the business distribute profits to its owners?

Savvy business decisions require consideration of all costs and benefits in order to evaluate the merits of a transaction. Although taxes do not necessarily dominate these decisions, they do represent large transaction costs that should be factored into the financial decision-making process. Taxes also play a major part in the political process. U.S. presidential candidates often distinguish themselves from their opponents based upon their tax rhetoric. Indeed, the major political parties generally have very diverse views of the appropriate way to tax the public. Voters must have a basic understanding of taxes to evaluate the merits of alternative tax proposals.

- 110) a. Not a tax because receiving a specific benefit for amount paid.
b. Not a tax, penalties/fines are not taxes by definition.
c. A tax, required payment imposed by local government, tax not tied to specific benefit received by payer.
d. A tax, required payment imposed by local government, no specific benefit received by payer.

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111) In addition to the general objective of raising revenue, Congress uses the federal tax system to encourage certain behavior and discourage other behavior. The charitable contribution deduction is intended to encourage taxpayers to support the initiatives of charitable organizations (social objective) whereas deductions for retirement contributions are intended to encourage retirement savings (social objective). Taxes are also often used to encourage investment and stimulate the economy. Likewise, taxes are also used to discourage certain less desirable taxpayer behavior. For example, "sin taxes" impose relatively high surcharges on alcohol and tobacco products to discourage their use.

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112) The marginal tax rate is the tax rate that applies to the taxpayer's additional taxable income or deductions that the taxpayer is evaluating in a decision. Specifically,

$$\text{Marginal Tax Rate} = \Delta \text{Tax} / \Delta \text{Taxable Income} = (\text{New Total Tax} - \text{Old Total Tax}) / (\text{New Taxable Income} - \text{Old Taxable Income})$$

The marginal tax rate is particularly useful in tax planning because it represents the rate of taxation or savings that would apply to additional taxable income or tax deductions.

The average tax rate represents the taxpayer's average level of taxation on each dollar of taxable income. Specifically,

$$\text{Average Tax Rate} = \text{Total Tax} / \text{Taxable Income}$$

The average tax rate is often used in budgeting tax expense as a portion of income (i.e., what percent of taxable income earned is paid in tax).

The effective tax rate represents the taxpayer's average rate of taxation on each dollar of total income (i.e., taxable *and* nontaxable income). Specifically,

$$\text{Effective Tax Rate} = \text{Total Tax} / \text{Total Income}$$

Relative to the average tax rate, the effective tax rate provides a better depiction of a taxpayer's tax burden because it depicts the taxpayer's total tax paid as a ratio of the sum of both taxable and nontaxable income earned.

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113) A proportional (flat) tax rate structure imposes a constant tax rate throughout the tax base. Common examples of proportional taxes include sales taxes and excise taxes (i.e., taxes based on quantity, such as gallons of gas purchased).

A progressive tax rate structure imposes an increasing marginal tax rate as the tax base increases. Common examples of progressive tax rate structures include federal and state income taxes and federal estate and gift taxes.

A regressive tax rate structure imposes a decreasing marginal tax rate as the tax base increases. Regressive tax rate structures are not common. In the United States, the Social Security tax and federal and state unemployment taxes employ a regressive tax rate structure. However, there are other regressive taxes when the tax is viewed in terms of effective tax rates. For example, a sales tax by definition is a proportional tax—i.e., as taxable purchases increase, the sales tax rate (i.e., the marginal tax rate) remains constant. Nonetheless, when you consider that the proportion of one's total income spent on taxable purchases likely decreases as total income increases, the sales tax may be considered a regressive tax.

One can view vertical equity in terms of tax dollars paid or in terms of tax rates. Proponents of proportional tax rate structures are more likely to argue that vertical equity is achieved when taxpayers with a greater ability to pay tax simply pay more in tax *dollars*. Thus, from this view, a proportional tax rate achieves vertical equity.

Proponents of a progressive tax system are more likely to argue that taxpayers with a greater ability to pay should be subject to a higher tax *rate*. This view is based upon the argument that the *relative* burden of a

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flat tax rate decreases as a taxpayer's income increases. Thus, vertical equity is achieved only when taxpayers with a greater ability to pay are subject to a higher tax rate.

Regressive tax rate structures are generally considered not to satisfy vertical equity (unless one is a strong advocate of the belief that those with a greater ability to pay do so simply by paying more tax dollars, albeit at a lower tax rate).

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114) Employment taxes consist of the Old Age, Survivors, and Disability Insurance (OASDI) tax, commonly called Social Security tax, and the Medical Health Insurance (MHI) tax, known as the Medicare tax. The Social Security tax pays the monthly retirement, survivor, and disability benefits for qualifying individuals, whereas the Medicare tax pays for medical insurance for individuals who are elderly or disabled. The tax base for the Social Security and Medicare taxes is wages or salary, and the rates are 12.4 percent and 2.9 percent, respectively. Employers *and* employees split this tax equally. Thus, Bart will have to pay the employer's portion of these taxes for his employees.

As a self-employed individual, Bart must also pay the self-employment tax, which is basically the same as the employer's and employee's share of the Social Security and Medicare taxes. The tax rates for these taxes are 12.4 percent and 2.9 percent, respectively, and the tax base is net self-employment income. The self-employment tax is in addition to any federal income tax owed by the individual.

In addition to the Social Security and Medicare taxes, employers are also required to pay federal and state unemployment taxes, which fund temporary unemployment benefits for individuals terminated from their jobs without cause. The tax base for the unemployment taxes is also wages or salary.

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115) The student is considering explicit taxes and ignoring implicit taxes. An explicit tax is a tax that is directly imposed by a government unit and easily quantified. Implicit taxes are the reduced rates of pretax return that a tax-favored asset produces (e.g., the lower pretax rate of return earned by tax exempt municipal bonds). Although implicit taxes are real and equally important in understanding our tax system, they are difficult to quantify.

Because implicit taxes are difficult to quantify, they are not generally considered when calculating average and effective tax rates (i.e., when assessing relative tax burdens). Since implicit taxes are ignored in these calculations, taxpayers may conclude that groups of taxpayers investing in tax-advantaged assets (subject to implicit tax) do not pay their fair share of tax as represented by a low effective tax rate.

116) Mandy's forecast is based on dynamic forecasting (i.e., she is considering how taxpayers may alter their activities in response to the tax law change). Given that Mandy is projecting a decrease in tax revenues, her estimates must be based on the substitution effect—i.e., taxpayers are likely to substitute nontaxable activities (e.g., simply not purchase gum) for taxable purchases. The decreased tax revenue from gum sales does not necessarily imply that Mandy will achieve a cleaner city, as taxpayers may simply buy their gum outside the city. This will depend on how close the city is to other towns/neighborhoods that do not impose the high gum tax.

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117) A sales tax by definition is a proportional tax—i.e., as taxable purchases increase, the sales tax rate (i.e., the marginal tax rate) remains constant. For this reason, Milton is correct. Nonetheless, when you consider that the proportion of one's total income spent on taxable purchases likely decreases as total income increases, the sales tax may be considered a regressive tax. For this reason, Rocco is correct.

Vertical equity is achieved when taxpayers with greater ability to pay tax pay more tax relative to taxpayers with a lesser ability to pay tax. One can view vertical equity in terms of tax dollars paid or in terms of tax rates. Proponents of a sales tax (e.g., Milton) are more likely to argue that vertical equity is achieved when taxpayers with a greater ability to pay tax pay more in tax dollars. Opponents of a national sales tax (e.g., Rocco) are more likely to argue that taxpayers with a greater ability to pay should be subject to a higher tax rate. This view is based upon the argument that the relative burden of a sales tax decreases as a taxpayer's income (e.g., disposable income) increases.

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118) Certainty means that taxpayers should be able to determine when to pay the tax, where to pay the tax, and how to determine the tax. It is relatively easy to determine when and where to pay the federal income tax. For example, individual federal income tax returns and the remaining balance of taxes owed must be filed with the Internal Revenue Service each year on or before April 15th (or the first business day following April 15th). Thus, from this perspective, the federal income tax scores high.

However, the federal income tax is often criticized as being complex. What are taxable/nontaxable forms of income? What are deductible/nondeductible expenses? When should income or expense be reported? For many taxpayers (e.g., wage earners with few investments), the answers to these questions are straightforward. For other taxpayers (e.g., business owners, individuals with a lot of investments), the answers to these questions are nontrivial. Constant tax law changes enacted by Congress also add to the difficulty in determining the proper amount of income tax to pay. These changes can make it difficult to determine a taxpayer's current tax liability, much less plan for the future. From this perspective of "certainty," the federal income tax system does not fare so well.

Economy requires that a good tax system should minimize the compliance and administration costs associated with the tax system. Economy can be viewed from both the taxpayers' and government's perspectives. From the government's perspective, the federal tax system fares well with respect to economy. For example, the current IRS budget represents approximately $\frac{1}{2}$ of a percent of every tax dollar collected. Compared to the typical costs of a collection agency, this is quite a low percentage cost.

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From the taxpayer's perspective of economy, the federal income tax does not fare so well. The income tax is often criticized for the compliance costs imposed on the taxpayer. Indeed, for certain taxpayers, record-keeping costs, accountant fees, attorney fees, etc., can be quite substantial.

119) Jonah will owe \$30,021 in federal income tax this year computed as follows:

$$\$30,021 = \$14,751 + (24\% \times (\$150,000 - \$86,375)).$$

Jonah's average tax rate is 20.01 percent.

$$\text{Average Tax Rate} = \text{Total Tax} / \text{Taxable Income} = \$30,021 / \$150,000 = 20.01\%$$

Jonah's effective tax rate is 18.76 percent.

$$\text{Effective Tax Rate} = \text{Total Tax} / \text{Total Income} = \$30,021 / (\$150,000 + \$10,000) = 18.76\%$$

Jonah is currently in the 24 percent tax rate bracket. His marginal tax rate on small increases in income and deductions is 24 percent.

If Jonah earns an additional \$40,000 of taxable income, his marginal tax rate on the income is 29.02 percent.

$$\text{Marginal Tax Rate} = \text{Change in Tax} / \text{Change in Taxable Income} = (\$41,627 - \$30,021) / (\$190,000 - \$150,000) = 29.02\%$$

120) Jonah will owe \$30,357 in federal income tax this year computed as follows:

$$\$30,357 = \$14,751.00 + (24\% \times (\$151,400 - \$86,375)).$$

Jonah's average tax rate is 20.05 percent.

$$\text{Average Tax Rate} = \text{Total Tax} / \text{Taxable Income} = \$30,357 / \$151,400 = 20.05\%$$

Jonah's effective tax rate is 18.65 percent.

$$\text{Effective Tax Rate} = \text{Total Tax} / \text{Total Income} = \$30,357 / (\$151,400 + \$11,400) = 18.65\%$$

Jonah is currently in the 24 percent tax rate bracket. His marginal tax rate on small increases in income and deductions is 24 percent.

If Jonah earns an additional \$41,400 of taxable income, his marginal tax rate on the income is 29.39 percent.

$$\text{Marginal Tax Rate} = \text{Change in Tax} / \text{Change in Taxable Income} = (\$42,523 - \$30,357) / (\$192,800 - \$151,400) = 29.39\%.$$

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121) Heather will owe \$7,496 in federal income tax this year, computed as follows:

$$\$7,496 = \$6,220 + (22\% \times (\$60,000 - \$54,200)).$$

Heather's average tax rate is 12.49 percent.

$$\text{Average Tax Rate} = \text{Total Tax} / \text{Taxable Income} = \$7,496 / \$60,000 = 12.49\%$$

Heather's effective tax rate is 11.53 percent.

$$\text{Effective Tax rate} = \text{Total Tax} / \text{Total Income} = \$7,496 / (\$60,000 + \$5,000) = 11.53\%$$

Heather is currently in the 22 percent tax rate bracket. Her marginal tax rate on small increases in income and deductions is 22 percent.

If Heather has an additional \$20,000 of tax deductions, her marginal tax rate on the deductions is 14.9 percent.

$$\text{Marginal Tax Rate} = \text{Change in Tax} / \text{Change in Taxable Income} = (\$4,516 - \$7,496) / (\$40,000 - \$60,000) = 14.90\%$$

122) Heather will owe \$8,200 in federal income tax this year, computed as follows:

$$\$8,200 = \$6,220 + (22\% \times (\$63,200 - \$54,200)).$$

Heather's average tax rate is 12.97 percent.

$$\text{Average Tax Rate} = \text{Total Tax} / \text{Taxable Income} = \$8,200 / \$63,200 = 12.97\%$$

Heather's effective tax rate is 11.48 percent.

$$\text{Effective Tax rate} = \text{Total Tax} / \text{Total Income} = \$8,200 / (\$63,200 + \$8,200) = 11.48\%$$

Heather is currently in the 22 percent tax rate bracket. Her marginal tax rate on small increases in income and deductions is 22 percent.

If Heather has an additional \$23,200 of tax deductions, her marginal tax rate on the deductions is 15.88 percent.

$$\text{Marginal Tax Rate} = \text{Change in Tax} / \text{Change in Taxable Income} = (\$4,516 - \$8,200) / (\$40,000 - \$63,200) = 15.88\%.$$

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123) Fred and Wilma will owe \$13,497 in federal income tax this year, computed as follows:

$$\$13,497 = \$9,328 + (22\% \times (\$100,000 - \$81,050)).$$

Fred and Wilma's average tax rate is 13.50 percent.

$$\text{Average Tax Rate} = \text{Total Tax/Taxable Income} = \$13,497 / \$100,000 = 13.50\%$$

Fred and Wilma's effective tax rate is 11.25 percent.

$$\text{Effective Tax Rate} = \text{Total Tax/Total Income} = \$13,497 / (\$100,000 + \$20,000) = 11.25\%$$

Fred and Wilma are currently in the 22 percent tax rate bracket. Their marginal tax rate on small increases in income and deductions is 22 percent.

If Fred and Wilma earn an additional \$40,000 of taxable income, their marginal tax rate on the income is 22.00 percent.

$$\text{Marginal Tax Rate} = \text{Change in Tax/Change in Taxable Income} = (\$22,297 - \$13,497) / (\$140,000 - \$100,000) = 22.00\%$$

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124) Nick would owe \$25,221 and Jessica would owe \$62,044, computed as follows:

Nick: $\$25,221 = \$14,751 + (24\% \times (\$130,000 - \$86,375))$.

Jessica: $\$62,044 = \$47,843 + (35\% \times (\$250,000 - \$209,425))$.

Nick's average tax rate is 19.40 percent.

Average Tax Rate = Total Tax/Taxable Income = $\$25,221 / \$130,000 = 19.40\%$

Jessica's average tax rate is 24.82 percent.

Average Tax Rate = Total Tax/Taxable Income = $\$62,044 / \$250,000 = 24.82\%$

Nick is in the 24 percent tax rate bracket, and Jessica is in the 35 percent tax rate bracket. Thus, their marginal tax rates are 24 percent and 35 percent, respectively, on small increases in income and deductions.

If Nick and Jessica filed jointly, they would owe \$83,254 in tax.

$\$83,254 = \$67,206 + (32\% \times (\$380,000 - \$329,850))$.

Thus, filing jointly would save them \$4,011 $((\$25,221 + \$62,044) - \$83,254.00)$.

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125) Since the city of Las Vegas bond is a tax-exempt bond, Ariel's after-tax rate of return on the bond is equal to its pretax rate of return (5 percent). Ariel pays no explicit tax on the interest earned from the city of Las Vegas bond. The Jittery Joe's bond would pay \$4,000 of interest (i.e., $8\% \times \$50,000$). Since Ariel's marginal tax rate is 24 percent, she would have paid \$960 of explicit tax (i.e., $25\% \times \$4,000$) on the interest earned from the Jittery Joe's, Incorporated bond, and her after-tax rate of return would be 6.08 percent ($((\$4,000 \text{ interest} - \$960 \text{ tax}) / \$50,000 \text{ investment})$). Ariel earns \$2,500 of interest on the city of Las Vegas bond (i.e., $5\% \times \$50,000$). A similarly priced taxable bond (i.e., the Jittery Joe's, Incorporated bond) would pay \$4,000 of taxable interest (i.e., $8\% \times \$50,000$). Ariel pays \$1,500 of implicit tax on the city of Las Vegas bond (i.e., the difference between the pretax interest earned from a similar taxable bond (\$4,000) and the pretax interest earned from the city of Las Vegas bond (\$2,500)). Ariel should choose the Jittery Joe's, Incorporated bond because it earns a higher after-tax rate of return ($((\$4,000 \text{ interest} - \$960 \text{ tax}) / \$50,000 \text{ investment}) = 6.08\%$) than the city of Las Vegas bond (5%).

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126) Nelson's after-tax rate of return on the tax-exempt city of Fruithurst bond is 4 percent. The J.B. Ribs, Incorporated bond pays taxable interest of 6.5 percent. Nelson's after-tax rate of return on the J.B. Ribs, Incorporated bond is 3.9 percent (i.e., $6.5\% \text{ interest income} - (6.5\% \times 40\%) \text{ tax} = 3.9\%$). Nelson should invest in the city of Fruithurst bond.

For Nelson to be indifferent between investing in the two bonds, the J.B. Ribs, Incorporated bond should provide Nelson the same after-tax rate of return as the city of Fruithurst bond (4 percent). To solve for the required pretax rate of return we can use the following formula: After-tax return = Pretax return $\times$ (1 – Marginal Tax Rate).

J.B. Ribs, Incorporated needs to offer a 6.67 percent interest rate to generate a 4 percent after-tax return and make Nelson indifferent between investing in the two bonds.

$$4\% = \text{Pretax return} \times (1 - 40\%);$$

$$\text{Pretax return} = 4\% / (1 - 40\%) = 6.67\%$$

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127) Nelson's after-tax rate of return on the tax-exempt city of Fruithurst bond is 6 percent. The J.B. Ribs, Incorporated bond pays taxable interest of 7.5 percent. Nelson's after-tax rate of return on the J.B. Ribs, Incorporated bond is 4.5 percent (i.e., $7.5\% \text{ interest income} - (7.5\% \times 40\%) \text{ tax} = 4.5\%$). Nelson should invest in the city of Fruithurst bond.

For Nelson to be indifferent between investing in the two bonds, the J.B. Ribs, Incorporated bond should provide Nelson the same after-tax rate of return as the city of Fruithurst bond (6 percent). To solve for the required pretax rate of return we can use the following formula: After-tax return = Pretax return $\times$ (1 – Marginal Tax Rate).

J.B. Ribs, Incorporated needs to offer a 10 percent interest rate to generate a 6 percent after-tax return and make Nelson indifferent between investing in the two bonds.

$$6\% = \text{Pretax return} \times (1 - 40\%);$$

$$\text{Pretax return} = 6\% / (1 - 40\%) = 10\%$$

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128) Namratha's after-tax rate of return on the tax-exempt city of Watkinsville bond is 4.5 percent. The Moe's, Incorporated bond pays taxable interest of 7 percent. Namratha's after-tax rate of return on the Moe's, Incorporated bond is 4.76 percent (i.e., 7% interest income – (7% × 32%) tax = 4.76%). Namratha should invest in the Moe's, Inc. bond.

For Namratha to be indifferent between investing in the two bonds, the Moe's, Incorporated bond should provide Namratha the same after-tax rate of return as the city of Watkinsville bond (4.5 percent). To solve for the required pretax rate of return we can use the following formula:
After-tax return = Pretax return × (1 – Marginal Tax Rate).

Moe's, Incorporated needs to offer a 6.62 percent interest rate to generate a 4.5 percent after-tax return and make Namratha indifferent between investing in the two bonds.

$$4.5\% = \text{Pretax return} \times (1 - 32\%);$$

$$\text{Pretax return} = 4.5\% / (1 - 32\%) = 6.62\%$$

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129) Mort's average tax rate is 20 percent.

Average Tax Rate = Total Tax / Total Income = \$4,000 / \$20,000 = 20%

A 20 percent average tax rate on Lizzy's \$80,000 total income would result in \$16,000 of tax (i.e., $20\% \times \$80,000 = \$16,000$). Thus, Lizzy must pay more than \$16,000 in tax for the tax structure to be progressive with respect to average tax rates.

Mort's effective tax rate is 16 percent.

Effective tax rate = Total Tax / Total Income = \$4,000 / (\$20,000 + \$5,000) = 16%

A 16 percent effective tax rate on Lizzy's \$110,000 total income would result in \$17,600 of tax (i.e., $16\% \times \$110,000 = \$17,600$). Thus, Lizzy must pay more than \$17,600 in tax for the tax structure to be progressive with respect to effective tax rates.

130) Mort's average tax rate is 20 percent.

Average Tax Rate = Total Tax / Total Income = \$25,000 / \$125,000 = 20%

A 20 percent average tax rate on Lizzy's \$122,000 total income would result in \$24,400 of tax (i.e., $20\% \times \$122,000 = \$24,400$). Thus, Lizzy must pay more than \$24,400 in tax for the tax structure to be progressive with respect to average tax rates. Mort's effective tax rate is 16 percent.

Effective tax rate = Total Tax / Total Income = \$25,000 / (\$125,000 + \$31,250) = 16%

A 16 percent effective tax rate on Lizzy's \$173,000 total income would result in \$27,680 of tax (i.e., $16\% \times \$173,000 = \$27,680$). Thus, Lizzy must pay more than \$27,680 in tax for the tax structure to be progressive with respect to effective tax rates.

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131) Diego's average tax rate is 5 percent.

Average Tax Rate = Total Tax / Total Income = $\$1,500 / \$30,000 = 5\%$

A 5 percent average tax rate on Dora's \$50,000 total income would result in \$2,500 of tax (i.e., $5\% \times \$50,000 = \$2,500$). Thus, Dora must pay more than \$2,500 in tax for the tax structure to be progressive with respect to average tax rates.

Diego's effective tax rate is 3.75 percent.

Effective tax rate = Total Tax / Total Income = $\$1,500 / (\$30,000 + \$10,000) = 3.75\%$

A 3.75 percent effective tax rate on Dora's \$55,000 total income would result in \$2,062.50 of tax (i.e., $3.75\% \times \$55,000 = \$2,062.50$). Thus, Dora must pay more than \$2,062.50 in tax for the tax structure to be progressive with respect to effective tax rates.

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132) Under the current income tax, Junior has \$60,000 of income after tax. If the income effect is descriptive and Congress increases tax rates so that Junior's average tax rate is 30 percent, Junior will need to earn \$85,714.29 to continue to have \$60,000 of income after tax.

After-tax income = Pretax income $(1 - \text{tax rate})$

\$60,000 = Pretax income $(1 - 0.30)$

Pretax income = \$60,000/0.70

Pretax income = \$85,714.29

Junior will pay \$25,714.29 in tax $(\$85,714.29 \times 0.30)$. Accordingly, if the income effect is descriptive, the tax base and the tax collected will increase.

If Junior only earns \$60,000 of taxable income, he would pay \$18,000 of tax under the new tax structure (i.e., $\$60,000 \times 0.30$). Thus, the government's tax revenues would decrease by \$2,000 (i.e., $\$18,000 - \$20,000$). This is an example of the substitution effect, which may be descriptive for taxpayers with more disposable income who can afford to earn less and maintain a style of living.

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133) Horizontal equity means that two taxpayers in similar situations pay the same tax. Thus, to make the tax structure horizontally equitable, Carrie should pay \$1,500 in tax.

Fantasia's average tax rate is 7.5 percent.

Average Tax Rate = Total Tax / Taxable Income = \$1,500 / \$20,000 = 7.5%

To be vertically equitable with respect to tax rates, Simon should pay a tax rate higher than 7.5 percent. A 7.5 percent tax rate on Simon's \$20,000 taxable income would result in \$2,250 of tax (i.e., $7.5\% \times \$20,000 = \$2,250$). Thus, Simon must pay more than \$2,250 in tax for the tax structure to be vertically equitable (i.e., to generate a tax rate more than 7.5 percent). This would result in a progressive tax rate structure.

134) The tax rate schedule is horizontally equitable because those taxpayers in the same situation (Lucy and Ethel) pay the same tax (\$4,500). The tax is not vertically equitable because the taxpayers with a greater ability to pay (Lucy and Ethel) do not pay more tax, nor do they pay a higher tax rate than Ricky.

135) We cannot evaluate whether the tax rate structure is horizontally equitable because we are unable to determine if taxpayers in similar situations pay the same tax (i.e., the problem does not give data for two taxpayers with the same income). The tax rate structure would be considered vertically equitable because taxpayers with higher income pay more tax and at a higher rate. Specifically, Moe's, Larry's, and Curly's average tax rates are 7.5 percent, 21.25 percent, and 25.5 percent, respectively.

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136) Taxes will affect several aspects of Jed's decision. Jed should consider differences in Georgia and Tennessee for (1) business taxes (e.g., corporate taxes), (2) individual income taxes, (3) excise taxes on beer, (4) real estate taxes (business and personal), (5) estate taxes (e.g., for wealth transfers from his parents), and (6) sales taxes.

Some nontax factors to be considered would include relative competition from other distributors, differences in beer consumption across states, factors that might influence long-term growth in the business, differences in costs associated with operating the business (licenses, relative wages, utilities, etc.), quality of life factors such as the quality of education, crime, recreational opportunities, etc.

137) Based on the information above, the average taxpayer pays \$14,000 of tax (i.e., $\$80,000 \times 17.5\%$), leaving \$66,000 of income after tax. A 20 percent increase in revenues would mean that the average taxpayer pays \$16,800 in tax ($\$14,000 \times 1.20$). With this new tax amount, we can solve for the tax rate that would generate this tax amount.

After-tax income = Pretax income $\times$ (1 – tax rate)

After-tax income = Pretax income – (Pretax income $\times$ tax rate)

After-tax income = Pretax income – Tax

Substituting information from the problem results in:

$\$66,000 = \text{Pretax income} - \$16,800$

Pre-tax income = \$82,800

We can use the above formula to solve for the new tax rate.

After-tax income = Pretax income $\times$ (1 – tax rate)

$\$66,000 = \$82,800 \times (1 - \text{tax rate})$

Tax rate = $\$16,800 / \$82,800 = 20.29\%$

This is an example of dynamic forecasting.

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138) Based on the information above, the average taxpayer pays \$6,960 of tax (i.e., $\$58,000 \times 12\%$), leaving \$51,040 of income after tax. A 35 percent increase in revenues would mean that the average taxpayer pays \$9,396 in tax ($\$6,960 \times 1.35$). With this new tax amount, we can solve for the tax rate that would generate this tax amount.

$$\text{After-tax income} = \text{Pretax income} \times (1 - \text{tax rate})$$

$$\text{After-tax income} = \text{Pretax income} - (\text{Pretax income} \times \text{tax rate})$$

$$\text{After-tax income} = \text{Pretax income} - \text{Tax}$$

Substituting information from the problem results in:

$$\$51,040 = \text{Pretax income} - \$9,396$$

$$\text{Pre-tax income} = \$60,436$$

We can use the above formula to solve for the new tax rate.

$$\text{After-tax income} = \text{Pretax income} \times (1 - \text{tax rate})$$

$$\$51,040 = \$60,436 \times (1 - \text{tax rate})$$

$$\text{Tax rate} = \$9,396 / \$60,436 = 15.55\%$$

This is an example of dynamic forecasting.