

***Intermediate Microeconomics A Modern Approach
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CHAPTER 2: Budget Constraint

MULTIPLE CHOICE

1. In Problem 1, if you have an income of \$18 to spend, if commodity 1 cost \$3 per unit, and if commodity 2 costs \$9 per unit, then the equation for your budget line can be written
- $x_1/3 + x_2/9 = 18$.
 - $(x_1 + x_2)/12 = 18$.
 - $x_1 + 3x_2 = 6$.
 - $4x_1 + 10x_2 = 19$.
 - $12(x_1 + x_2) = 18$.

ANS: C

2. In Problem 1, if you have an income of \$18 to spend, if commodity 1 costs \$3 per unit, and if commodity 2 costs \$9 per unit, then the equation for your budget line can be written
- $x_1/3 + x_2/9 = 18$.
 - $4x_1 + 10x_2 = 19$.
 - $x_1 + 3x_2 = 6$.
 - $(x_1 + x_2)/12 = 18$.
 - $12(x_1 + x_2) = 18$.

ANS: C

3. In Problem 1, if you have an income of \$30 to spend, if commodity 1 costs \$5 per unit, and if commodity 2 costs \$10 per unit, then the equation for your budget line can be written
- $6x_1 + 11x_2 = 31$.
 - $(x_1 + x_2)/15 = 30$.
 - $x_1 + 2x_2 = 6$.
 - $x_1/5 + x_2/10 = 30$.
 - $15(x_1 + x_2) = 30$.

ANS: C

4. In Problem 1, if you have an income of \$16 to spend, if commodity 1 costs \$2 per unit, and if commodity 2 costs \$4 per unit, then the equation for your budget line can be written
- $x_1 + 2x_2 = 8$.
 - $3x_1 + 5x_2 = 17$.
 - $(x_1 + x_2)/6 = 16$.
 - $x_1/2 + x_2/4 = 16$.
 - $6(x_1 + x_2) = 16$.

ANS: A

5. In Problem 1, if you have an income of \$80 to spend, if commodity 1 costs \$4 per unit, and if commodity 2 costs \$16 per unit, then the equation for your budget line can be written
- $x_1 + 4x_2 = 20$.
 - $(x_1 + x_2)/20 = 80$.
 - $x_1/4 + x_2/16 = 80$.
 - $5x_1 + 17x_2 = 81$.

e. $20(x_1 + x_2) = 80$.

ANS: A

6. In Problem 3, if you could exactly afford either 2 units of x and 7 units of y , or 4 units of x and 3 units of y , then if you spent all of your income on y , how many units of y could you buy?
- a. 11
 - b. 7
 - c. 15
 - d. 6
 - e. None of the above.

ANS: A DIF: 1

7. In Problem 3, if you could exactly afford either 4 units of x and 8 units of y , or 6 units of x and 2 units of y , then if you spent all of your income on y , how many units of y could you buy?
- a. 20
 - b. 26
 - c. 10
 - d. 14
 - e. None of the above.

ANS: A DIF: 1

8. In Problem 3, if you could exactly afford either 2 units of x and 10 units of y , or 4 units of x and 2 units of y , then if you spent all of your income on y , how many units of y could you buy?
- a. 6
 - b. 10
 - c. 18
 - d. 26
 - e. None of the above.

ANS: C DIF: 1

9. In Problem 3, if you could exactly afford either 4 units of x and 27 units of y , or 9 units of x and 7 units of y , then if you spent all of your income on y , how many units of y could you buy?
- a. 23
 - b. 63
 - c. 43
 - d. 13
 - e. None of the above.

ANS: C DIF: 1

10. In Problem 3, if you could exactly afford either 2 units of x and 11 units of y , or 4 units of x and 7 units of y , then if you spent all of your income on y , how many units of y could you buy?
- a. 19
 - b. 15
 - c. 11
 - d. 6
 - e. None of the above.

ANS: B DIF: 1

11. In Problem 4, Murphy used to consume 100 units of X and 50 units of Y when the price of X was \$2 and the price of Y was \$4. If the price of X rose to \$5 and the price of Y rose to \$5, how much would Murphy's income have to rise so that he could still afford his original bundle?
- a. \$400
 - b. \$350
 - c. \$200
 - d. \$600
 - e. None of the above.

ANS: B

12. In Problem 4, Murphy used to consume 100 units of X and 50 units of Y when the price of X was \$2 and the price of Y was \$4. If the price of X rose to \$6 and the price of Y rose to \$6, how much would Murphy's income have to rise so that he could still afford his original bundle?
- a. \$300
 - b. \$900
 - c. \$600
 - d. \$500
 - e. None of the above.

ANS: D

13. In Problem 4, Murphy used to consume 100 units of X and 50 units of Y when the price of X was \$2 and the price of Y was \$4. If the price of X rose to \$4 and the price of Y rose to \$7, how much would Murphy's income have to rise so that he could still afford his original bundle?
- a. \$500
 - b. \$750
 - c. \$350
 - d. \$250
 - e. None of the above.

ANS: C

14. In Problem 4, Murphy used to consume 100 units of X and 50 units of Y when the price of X was \$2 and the price of Y was \$4. If the price of X rose to \$4 and the price of Y rose to \$7, how much would Murphy's income have to rise so that he could still afford his original bundle?
- a. \$750
 - b. \$500
 - c. \$350
 - d. \$250
 - e. None of the above.

ANS: C

15. In Problem 4, Murphy used to consume 100 units of X and 50 units of Y when the price of X was \$2 and the price of Y was \$4. If the price of X rose to \$6 and the price of Y rose to \$5, how much would Murphy's income have to rise so that he could still afford his original bundle?
- a. \$750
 - b. \$250
 - c. \$450
 - d. \$500
 - e. None of the above.

ANS: C

16. In Problem 7, Edmund must pay \$6 each for punk rock video cassettes. If Edmund is paid \$48 per sack for accepting garbage and if his relatives send him an allowance of \$432, then his budget line is described by the equation
- a. $6V = 48G$.
 - b. $6V + 48G = 432$.
 - c. $6V - 48G = 432$.
 - d. $6V = 432 - G$.
 - e. None of the above.

ANS: C

17. In Problem 7, Edmund must pay \$6 each for punk rock video cassettes. If Edmund is paid \$18 per sack for accepting garbage and if his relatives send him an allowance of \$108, then his budget line is described by the equation
- a. $6V + 18G = 108$.
 - b. $6V = 108 - G$.
 - c. $6V - 18G = 108$.
 - d. $6V = 18G$.
 - e. None of the above.

ANS: C

18. In Problem 7, Edmund must pay \$6 each for punk rock video cassettes. If Edmund is paid \$48 per sack for accepting garbage and if his relatives send him an allowance of \$336, then his budget line is described by the equation
- a. $6V - 48G = 336$.
 - b. $6V = 48G$.
 - c. $6V = 336 - G$.
 - d. $6V + 48G = 336$.
 - e. None of the above.

ANS: A

19. In Problem 7, Edmund must pay \$6 each for punk rock video cassettes. If Edmund is paid \$36 per sack for accepting garbage and if his relatives send him an allowance of \$360, then his budget line is described by the equation
- a. $6V + 36G = 360$.
 - b. $6V - 36G = 360$.
 - c. $6V = 360 - G$.
 - d. $6V = 36G$.
 - e. None of the above.

ANS: B

20. In Problem 7, Edmund must pay \$6 each for punk rock video cassettes. If Edmund is paid \$18 per sack for accepting garbage and if his relatives send him an allowance of \$180, then his budget line is described by the equation
- a. $6V - 18G = 180$.
 - b. $6V = 180 - G$.

- c. $6V + 18G = 180$.
- d. $6V = 18G$.
- e. None of the above.

ANS: A

21. In Problem 10, if in the same amount of time that it takes her to read 40 pages of economics and 30 pages of sociology, Martha could read 10 pages of economics and 90 pages of sociology, then which of these equations describes combinations of pages of economics, E , and sociology, S , that she could read in the time it takes to read 40 pages of economics and 30 pages of sociology?
- a. $E + S = 70$.
 - b. $E/2 + S = 50$.
 - c. $2E + S = 110$.
 - d. $E + S = 100$.
 - e. All of the above.

ANS: C

22. In Problem 10, if in the same amount of time that it takes her to read 40 pages of economics and 30 pages of sociology, Martha could read 20 pages of economics and 110 pages of sociology, then which of these equations describes combinations of pages of economics, E , and sociology, S , that she could read in the time it takes to read 40 pages of economics and 30 pages of sociology?
- a. $E + S = 130$.
 - b. $E/2 + S = 50$.
 - c. $E + S = 70$.
 - d. $4E + S = 190$.
 - e. All of the above.

ANS: D

23. In Problem 10, if in the same amount of time that it takes her to read 40 pages of economics and 30 pages of sociology, Martha could read 30 pages of economics and 70 pages of sociology, then which of these equations describes combinations of pages of economics, E , and sociology, S , that she could read in the time it takes to read 40 pages of economics and 30 pages of sociology?
- a. $4E + S = 190$.
 - b. $E + S = 70$.
 - c. $E + S = 100$.
 - d. $E/2 + S = 50$.
 - e. All of the above.

ANS: A

24. In Problem 10, if in the same amount of time that it takes her to read 40 pages of economics and 30 pages of sociology, Martha could read 20 pages of economics and 90 pages of sociology, then which of these equations describes combinations of pages of economics, E , and sociology, S , that she could read in the time it takes to read 40 pages of economics and 30 pages of sociology?
- a. $E + S = 110$.
 - b. $E/2 + S = 50$.
 - c. $3E + S = 150$.
 - d. $E + S = 70$.
 - e. All of the above.

ANS: C

25. In Problem 10, if in the same amount of time that it takes her to read 40 pages of economics and 30 pages of sociology, Martha could read 20 pages of economics and 110 pages of sociology, then which of these equations describes combinations of pages of economics, E , and sociology, S , that she could read in the time it takes to read 40 pages of economics and 30 pages of sociology?
- a. $E + S = 130$.
 - b. $E/2 + S = 50$.
 - c. $E + S = 70$.
 - d. $4E + S = 190$.
 - e. All of the above.

ANS: D

26. In Problem 11, ads in the boring business magazine are read by 300 lawyers and 1,000 M.B.A.s. Ads in the consumer publication are read by 250 lawyers and 300 M.B.A.s. If Harry had \$3,000 to spend on advertising, if the price of ads in the boring business magazine were \$600, and if the price of ads in the consumer magazine were \$300, then the combinations of recent M.B.A.s and lawyers with hot tubs whom he could reach with his advertising budget would be represented by the integer values along a line segment that runs between the two points
- a. (2, 500, 3, 000) and (1, 500, 5, 000).
 - b. (3, 000, 3, 500) and (1, 500, 6, 000).
 - c. (0, 3, 000) and (1, 500, 0).
 - d. (3, 000, 0) and (0, 6, 000).
 - e. (2, 000, 0) and (0, 5, 000).

ANS: A

27. In Problem 11, ads in the boring business magazine are read by 300 lawyers and 1,000 M.B.A.s. Ads in the consumer publication are read by 250 lawyers and 300 M.B.A.s. If Harry had \$3,250 to spend on advertising, if the price of ads in the boring business magazine were \$500, and if the price of ads in the consumer magazine were \$250, then the combinations of recent M.B.A.s and lawyers with hot tubs whom he could reach with his advertising budget would be represented by the integer values along a line segment that runs between the two points
- a. (3, 900, 0) and (0, 7, 800).
 - b. (3, 250, 3, 900) and (1, 950, 6, 500).
 - c. (0, 3, 900) and (1, 950, 0).
 - d. (3, 900, 4, 550) and (1, 950, 7, 800).
 - e. (2, 600, 0) and (0, 6, 500).

ANS: B

28. In Problem 11, ads in the boring business magazine are read by 300 lawyers and 1,000 M.B.A.s. Ads in the consumer publication are read by 250 lawyers and 300 M.B.A.s. If Harry had \$2,250 to spend on advertising, if the price of ads in the boring business magazine were \$300, and if the price of ads in the consumer magazine were \$150, then the combinations of recent M.B.A.s and lawyers with hot tubs whom he could reach with his advertising budget would be represented by the integer values along a line segment that runs between the two points
- a. (3, 750, 4, 500) and (2, 250, 7, 500).
 - b. (0, 4, 500) and (2, 250, 0).
 - c. (4, 500, 0) and (0, 9, 000).
 - d. (4, 500, 5, 250) and (2, 250, 9, 000).

- e. (3, 000, 0) and (0, 7, 500).

ANS: A

29. In Problem 11, ads in the boring business magazine are read by 300 lawyers and 1,000 M.B.A.s. Ads in the consumer publication are read by 250 lawyers and 300 M.B.A.s. If Harry had \$4,200 to spend on advertising, if the price of ads in the boring business magazine were \$700, and if the price of ads in the consumer magazine were \$350, then the combinations of recent M.B.A.s and lawyers with hot tubs whom he could reach with his advertising budget would be represented by the integer values along a line segment that runs between the two points
- a. (3, 600, 0) and (0, 7, 200).
 - b. (3, 000, 3, 600) and (1, 800, 6, 000).
 - c. (0, 3, 600) and (1, 800, 0).
 - d. (3, 600, 4, 200) and (1, 800, 7, 200).
 - e. (2, 400, 0) and (0, 6, 000).

ANS: B

30. In Problem 11, ads in the boring business magazine are read by 300 lawyers and 1,000 M.B.A.s. Ads in the consumer publication are read by 250 lawyers and 300 M.B.A.s. If Harry had \$3,250 to spend on advertising, if the price of ads in the boring business magazine were \$500, and if the price of ads in the consumer magazine were \$250, then the combinations of recent M.B.A.s and lawyers with hot tubs whom he could reach with his advertising budget would be represented by the integer values along a line segment that runs between the two points
- a. (3, 900, 4, 550) and (1, 950, 7, 800).
 - b. (3, 900, 0) and (0, 7, 800).
 - c. (0, 3, 900) and (1, 950, 0).
 - d. (3, 250, 3, 900) and (1, 950, 6, 500).
 - e. (2, 600, 0) and (0, 6, 500).

ANS: D

31. In the economy of Mungo, discussed in Problem 12, there is a third person called Ike. Ike has a red income of 82 and a blue income of 25. Recall that blue prices are 1 bcu (blue currency unit) per unit of ambrosia and 1 bcu per unit of bubble gum. Red prices are 2 rcus (red currency units) per unit of ambrosia and 6 rcus per unit of bubble gum. You have to pay twice for what you buy, once in red currency, once in blue currency. If Ike spends all of his blue income but not all of his red income he must consume
- a. at least 8 units of bubble gum.
 - b. at least 17 units of ambrosia.
 - c. exactly twice as much bubble gum as ambrosia.
 - d. at least 13 units of bubble gum.
 - e. equal amounts of ambrosia and bubble gum.

ANS: B

DIF: 2

32. In the economy of Mungo, discussed in Problem 12, there is a third person called Ike. Ike has a red income of 104 and a blue income of 30. Recall that blue prices are 1 bcu (blue currency unit) per unit of ambrosia and 1 bcu per unit of bubble gum. Red prices are 2 rcus (red currency units) per unit of ambrosia and 6 rcus per unit of bubble gum. You have to pay twice for what you buy, once in red currency, once in blue currency. If Ike spends all of his blue income but not all of his red income, he must consume
- a. at least 19 units of ambrosia.

- b. at least 11 units of bubble gum.
- c. exactly twice as much bubble gum as ambrosia.
- d. at least 21 units of bubble gum.
- e. equal amounts of ambrosia and bubble gum.

ANS: A DIF: 2

33. In the economy of Mungo, discussed in Problem 12, there is a third person called Ike. Ike has a red income of 56 and a blue income of 10. Recall that blue prices are 1 bcu (blue currency unit) per unit of ambrosia and 1 bcu per unit of bubble gum. Red prices are 2 rcus (red currency units per unit of ambrosia and 6 rcus per unit of bubble gum. You have to pay twice for what you buy, once in red currency, once in blue currency. If Ike spends all of his blue income but not all of his red income, he must consume
- a. at least 9 units of bubble gum.
 - b. at least 17 units of bubble gum.
 - c. exactly twice as much bubble gum as ambrosia.
 - d. at least 1 unit of ambrosia.
 - e. equal amounts of ambrosia and bubble gum.

ANS: D DIF: 2

34. In the economy of Mungo, discussed in Problem 12, there is a third person called Ike. Ike has a red income of 90 and a blue income of 25. Recall that blue prices are 1 bcu (blue currency unit) per unit of ambrosia and 1 bcu per unit of bubble gum. Red prices are 2 rcus (red currency units per unit of ambrosia and 6 rcus per unit of bubble gum. You have to pay twice for what you buy, once in red currency, once in blue currency. If Ike spends all of his blue income but not all of his red income, he must consume
- a. at least 15 units of ambrosia.
 - b. at least 15 units of bubble gum.
 - c. at least 10 units of bubble gum.
 - d. exactly twice as much bubble gum as ambrosia.
 - e. equal amounts of ambrosia and bubble gum.

ANS: A DIF: 2

35. In the economy of Mungo, discussed in Problem 12, there is a third person called Ike. Ike has a red income of 88 and a blue income of 30. Recall that blue prices are 1 bcu (blue currency unit) per unit of ambrosia and 1 bcu per unit of bubble gum. Red prices are 2 rcus (red currency units per unit of ambrosia and 6 rcus per unit of bubble gum. You have to pay twice for what you buy, once in red currency, once in blue currency. If Ike spends all of his blue income but not all of his red income, he must consume
- a. at least 23 units of ambrosia.
 - b. exactly twice as much bubble gum as ambrosia.
 - c. at least 17 units of bubble gum.
 - d. at least 7 units of bubble gum.
 - e. equal amounts of ambrosia and bubble gum.

ANS: A DIF: 2