Instructor's Manual to Accompany

SIXTH EDITION

Math Principles

FOR FOOD SERVICE OCCUPATIONS

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DELMAR CENGAGE Learning

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Answers to Chapter Questions

CHAPTER 1

Using the Calculator

Practice Problems 1-1: Addition, Subtraction, Multiplication, and Division

Addition

1. 424.00
2. 606.00
3. 1,407.00
4. 10,475.00
5. 3,092.16

Subtraction

6. 7,363.00
7. 4,182.01
8. 24,750.68
9. 3,655.89
10. 534.37

Multiplication

11. 43,914.00
12. 2,080,832.00
13. 678,565.20
14. 60,750.14
15. 36,150.19

Division

16. 111.67

17. 46.78

18. 45.30

19. 396.80

20. 0.29

Practice Problems 1-2: Chain Calculations

21. 254

22. 500

23. 403

24. $11,056.8

25. –14,563.6

Practice Problems 1-3: Multiplying by a Constant

26. $35.43

27. $5.10

28. $258.87

29. $340.38

30. $469.26

Practice Problems 1-4: Dividing by a Constant

31. $9.54

32. $2.14

33. $26.17

34. $16.23

35. $3.69

Discussion Question 1-1

Are there any reasons why a food service professional should not rely on the answers obtained from using a calculator? Defend your answer thoroughly.

Possible Answers:

Solver may have put in the incorrect number(s)

Solver may have transposed a number(s)

Solver may have omitted, or added number(s)

Calculator may be defective

Instructor or student may come up with different answers

Practice Problems 1-5: Multiplying and Dividing by a Percent

Multiplication

36. $74.14

37. $42.41

38. $606.80

39. $506.79

40. $71.99

Division

41. $560.00

42. $6,697.30

43. $19,013.16

44. $140,278.13

45. $10,744.49

Practice Problems 1-6: Adding and Subtracting by a Percentage

46. $413.48

47. $5,714.03

48. $743.75

49. $3,705.85

50. $971.02

51. a. $54.75

    b. $38.55

    c. $57.00

    d. $33.60

    e. $56.70

    f. $240.60

    g. $28.872, which rounds to $28.87

    h. $211.73

    i. $223.73

Discussion Question 1-2

Are any of the figures incorrect? What could have happened to cause the mistake(s)? What is the correct total? As the chef/owner, what steps would you take to correct the bill?

Possible Answers:

The correct total is $666.82.

The thyme is $11.78, and the vermicelli is $16.80. The bill should read $668.82.

The thyme was multiplied by the 11 instead of 2, and the vermicelli was multiplied incorrectly.

The chef/owner must contact the purveyor and obtain a corrected copy of the invoice.

Practice Problems 1-8: Multiplying by Using the Memory Function

52. $169.34

53. $111.48

54. $90.28

55. $342.06

56. $145.07

Practice Problems 1-9: Using the Plus/Minus Key

57. $1,900.23

58. $4,762.65

59. $1,294.27

60. $831.57

61. $1,215.22

CHAPTER 2

Numbers, Symbols of Operations, and the Mill

Practice Problems 2-1: Placement of Commas

1. 5,321
2. 10,495
3. 396,559,318
4. 26,495
5. 459,987,123
6. 48,973
7. 420,000,000
8. 41,213,728
9. 86,931,100,099
10. 8,725,351,280

Practice Problems 2-2: Writing Dollar Amounts in Words

11. twenty-eight hundred fifty-six and 19/100 dollars
12. twenty thousand four hundred ninety-five and 25/100 dollars
13. forty-nine and 95/100 dollars
14. four hundred ninety-two and 49/100 dollars
15. sixty-three thousand six hundred sixty-six and 18/100 dollars
16. sixty-three thousand six hundred eighty-two and 63/100 dollars

17. eight hundred ninety-two and 75/100 dollars

18. eight and 8/100 dollars

19. eighty-eight and 88/100 dollars

20. one hundred five and 16/100 dollars

Practice Problems 2-3: Symbols of Operations

21. percent (%)

22. at (@)

23. fraction bar (—)

24. decimal point (.)

25. dollar sign ($)

26. times (×)

27. divided by (÷)

28. at (@)

29. equals (=)

30. percent (%)

31. divided by (÷)

32. minus (–)

33. plus (+)

34. percent (%)

35. at (@)

Practice Problems 2–4: The Mill

36. 10

37. 100

38. 1,000

39. If the mill is 4 or less, leave the digit in the hundredths place as it stands; for example, 012 = .01

40. If the mill is 5 or more, add 1 to the digit in the hundredths place; for example, .017=.02

Changing Amounts to the Nearest Cent Using the Mill

41. $0.04

42. $0.59

43. $0.07

44. $0.05

45. $0.08

46. $0.07

47. $0.03

48. $0.13

49. $592.71

50. $8,425.79

51. $729.14

Discussion Question 2-1

Why is the mill useful when costing out recipes?

Possible Answer:

Mathematically it provides a specific cost enabling the chef to price the menu accurately and profitably. However, realistically it may be better to round up to the nearest cent.