

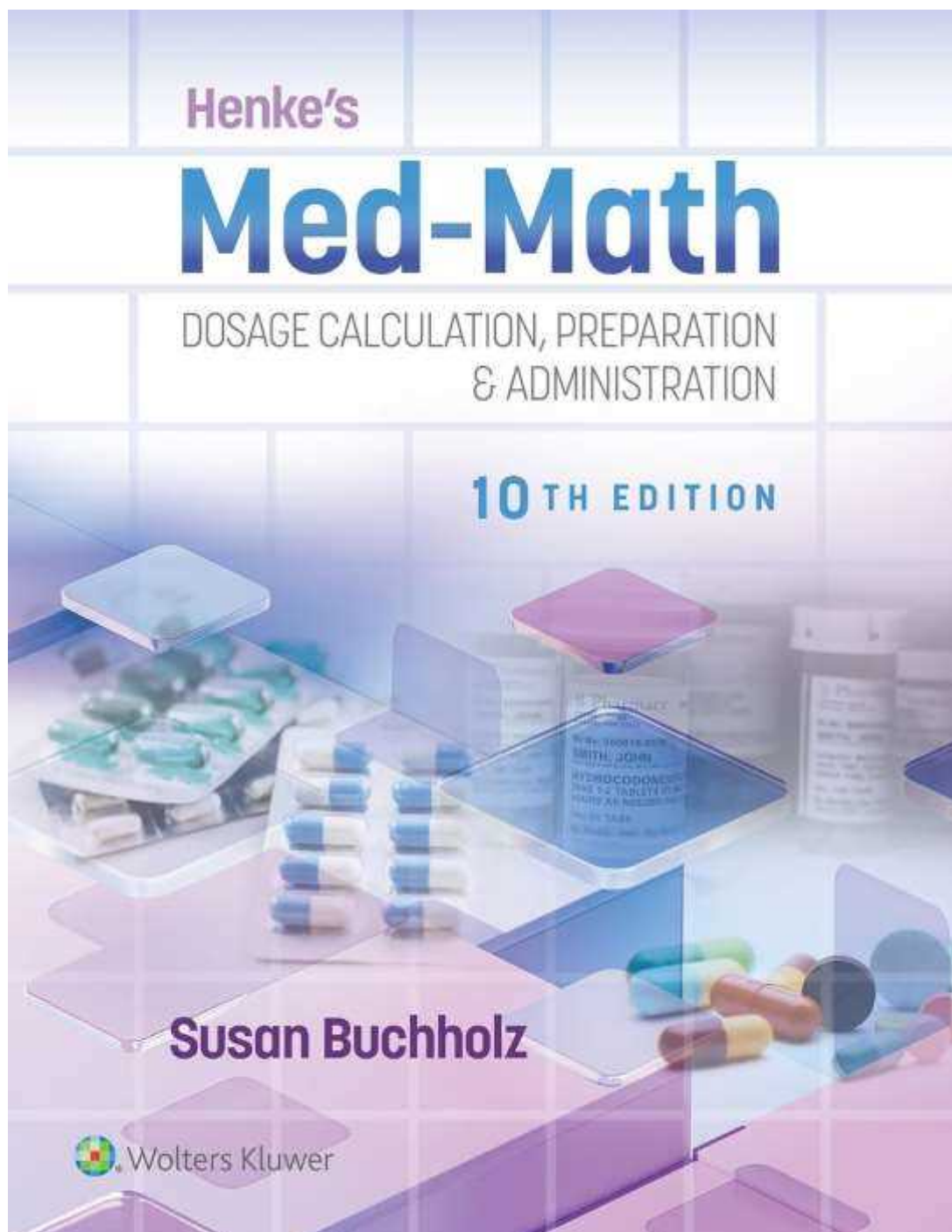
# TEST BANK

## Henke's Med-Math

### DOSAGE-CALCULATION, PREPARATION, AND ADMINISTRATION

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10th Edition



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## Chapter 1, Arithmetic Needed for Dosage.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Basic Care and comfort

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 2, Dividing Whole Numbers; 3, Fractions

Integrated Process: Teaching/Learning

Objective: 1, 2

1. A patient/client was instructed to drink 25 oz of water within 2 hours but was only able to drink 15 oz. What portion of the water remained?

- A)  $\frac{2}{5}$
- B)  $\frac{3}{5}$
- C)  $\frac{2}{25}$
- D)  $\frac{25}{25}$

Ans: A

Feedback: Subtract the quantity of water the client drank (15 oz) from the total available quantity (25 oz): 10 oz remain. To determine the portion of the water that remains, create a fraction by dividing 10 oz (remaining portion) by 25 oz (total portion). Therefore, 10 divided by 25 =  $\frac{10}{25}$ . To reduce fractions, find the largest number that can be divided evenly into the numerator and the denominator (5). Ten divided by 5 ( $\frac{10}{5}$ ) = 2;  $\frac{25}{5}$  = 5. The fraction  $\frac{10}{25}$  can be reduced to its lowest terms of  $\frac{2}{5}$ .

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Basic Care and Comfort

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 2, Dividing Whole Numbers; 3, Fractions

Integrated Process: Teaching/Learning

Objective: 1, 2

2. A patient/client was prescribed 240 mL of Ensure by mouth and a supplement but consumed only 100 mL. What portion of the Ensure remained?

- A)  $5/12$
- B)  $7/12$
- C)  $100/240$
- D)  $240/240$

Ans: B

Feedback: Subtract the quantity of Ensure the client consumed (100 mL) from the total available quantity (240 mL): 140 mL remain. To determine the portion of the Ensure that remains, create a fraction by dividing 140 mL (remaining portion) by 240 mL (total portion). Therefore,  $140 \div 240 = 7/12$ . To reduce fractions, find the largest number that can be divided evenly into the numerator and the denominator (20);  $140 \div 20 (140/20) = 7$ ;  $240/20 = 12$ . The fraction  $140/240$  can be reduced to its lowest terms of  $7/12$ .

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Basic Care and comfort

Cognitive Level: Analyze

Difficulty: Difficult

Page and Header: 2, Multiplying Whole Numbers; 3, Fractions

Integrated Process: Communication and Documentation

Objective: 1, 2

3. A patient/client consumed  $2\frac{1}{4}$  oz. of coffee,  $2/3$  oz. of ice cream, and  $1\frac{1}{2}$  oz. of beef broth. What is the total number of ounces consumed that should be documented for the patient/client?

- A)  $3\frac{3}{4}$
- B)  $4\frac{5}{12}$
- C)  $4\frac{2}{3}$
- D)  $4\frac{4}{9}$

Ans: B

Feedback: Add the amount of ounces consumed. First, change any mixed number to a fraction by multiplying the whole number by the denominator and then adding that total to the numerator. For the coffee,  $4 \frac{1}{2} = 8 + \frac{1}{2} = \frac{9}{2}$ ; for the beef broth,  $2 \frac{1}{2} = 2 + \frac{1}{2} = \frac{5}{2}$ . Then add:  $\frac{9}{2} + \frac{2}{3}$  (ice cream) +  $\frac{3}{2}$ . When fractions have different denominators, find the least common denominator (LCD). For 2, 3, and 4, the LCD = 12. Rewrite each fraction using the LCD; divide the LCD by the denominator of each fraction and then multiply that result by the numerator of the fraction. The new fractions to be added are  $\frac{27}{12}$  (coffee),  $\frac{8}{12}$  (ice cream), and  $\frac{18}{12}$  (beef broth). After conversion of the fractions, the numerators are added together and the fraction is reduced to the lowest terms.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Basic Care and comfort

Cognitive Level: Analyze

Difficulty: Difficult

Page and Header: 2, Multiplying Whole Numbers; 3, Fractions

Integrated Process: Communication and Documentation

Objective: 1, 2

4. A coffee cup holds 180 mL. The patient/client drank  $2\frac{1}{3}$  cups of coffee. How many milliliters would the nurse document as consumed?

- A) 360
- B) 420
- C) 510
- D) 600

Ans: B

Feedback: The coffee cup holds 180 mL. The client drank  $2\frac{1}{3}$  cups. To estimate the total number of milliliters consumed, multiply  $180 \times \frac{7}{3}$  ( $2\frac{1}{3}$ ). When a mixed number is present, change it to an improper fraction by multiplying the whole number by the denominator and then adding that total to the numerator:  $2 \frac{1}{3} = 6 + 1 = \frac{7}{3}$ .

Therefore,  $180 \text{ mL} \times \frac{7}{3} = 420 \text{ mL}$  ( $180 \div 3 = 60 \times 7 = 420$ ).

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals

Integrated Process: Nursing Process

Objective: 3, 5

5. A patient/client weighed 48.52 kg on admission and now weighs 50.4 kg. How many kilograms were gained since admission?

A) 0.78

B) 0.88

C) 1.88

D) 1.98

Ans: C

Feedback: To estimate the amount of kilograms gained, subtract weight on admission (48.52) from current weight (50.4 kg) = 1.88 kg (weight gained). To subtract decimals, decimals are stacked lined up. Starting at the far right of the stack, the numbers are subtracted. In the answer, make sure the decimal point lines up exactly with the points above it.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals

Integrated Process: Teaching/Learning

Objective: 3, 5, 6

6. A patient/client's sodium intake for one meal was 0.004 g and 0.152 g. How many grams, to the nearest hundredths, of sodium were consumed?

- A) 0.15
- B) 0.156
- C) 0.16
- D) 0.166

Ans: C

Feedback: To add decimals, stack vertically, making sure that all of the decimal points exactly line up. Starting at the far right of the stack, add each vertical column of numbers. In the answer, make sure the decimal point lines up exactly with the points above it. To round off a decimal, the final number is dropped. Add  $0.004 \text{ g} + 0.152 \text{ g} = 0.156 \text{ g}$  (thousandths place) to determine the total number of grams the client consumed. When the final number (6) is 5 or greater, drop that number and increase the adjacent number (5) by 1. When you want a number rounded off to the nearest hundredth, look at the number in the thousandth place and follow the rounding off rule. Therefore,  $0.156 = 0.16 \text{ g}$ .

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals; 15, Percents; 19, Fractions, Ratio, and Proportion.

Integrated Process: Teaching/Learning

Objective: 5, 7, 8

7. A patient/client reports drinking 30% of a 16-oz bottle of orange juice. How many ounces did the patient/client drink?

- A) 0.18
- B) 3.2
- C) 4.8
- D) 5.3

Ans: C

Feedback: Percent means "parts per hundred." Percent is a fraction, containing a variable numerator and a denominator that always equals 100. Therefore,  $30\% =$

30/100 (fraction), 30:100 (ratio), and 0.3 (decimal). To determine the percent of the orange juice the client drank, multiply 30%  $\square$  16 oz. Using the decimal format (0.3  $\square$  16), line up the numbers on the right. Do not align the decimal points. Starting at the right, multiply each digit in the top number by each digit in the bottom number, just as is done with whole numbers. Add the products. Place the decimal point in the answer by starting at the right and moving the point the same number of places that you totaled earlier. When blank spaces are present, fill each one with a zero. The answer is 4.8 oz (0.3  $\square$  16).

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals; 15, Percents; 19, Fractions, Ratio, and Proportion.

Integrated Process: Communication and Documentation

Objective: 5, 7, 8

8. A patient/client reports drinking 45% of a 12-oz can of soda. How many ounces are documented?

- A) 4.4
- B) 5.7
- C) 5.4
- D) 4.7

Ans: C

Feedback: Percent means "parts per hundred." Percent is a fraction, containing a variable numerator and a denominator that always equals 100. Therefore, 45% = 45/100 (fraction), 45:100 (ratio), and 0.45 (decimal). To determine the percent of the soda that the client drank, multiply 45%  $\square$  12 oz. Using the decimal format (0.45  $\square$  12), line up the numbers on the right. Do not align the decimal points. Starting at the right, multiply each digit in the top number by each digit in the bottom number, just as is done with whole numbers. Add the products. Place the decimal point in the answer by starting at the right and moving the point the same number of places that



you totaled earlier. When blank spaces are present, fill each one with a zero. The answer is 5.4 oz ( $0.45 \times 12$ ).

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 3, Fractions

Integrated Process: Teaching/Learning

Objective: 1

9. A patient/client is on a 1200 mL fluid restriction for 24 hours. At breakfast and lunch, the patient/client consumed  $\frac{3}{5}$  of the fluid allowance. How many milliliters were consumed?

A) 280

B) 360

C) 540

D) 720

Ans: D

Feedback: To estimate  $\frac{3}{5}$  of 1200 mL, set up the fraction:  $\frac{3}{5} \times \frac{1200}{1} = \frac{3600}{5} = 720$  mL. Multiply the numerators across and then multiply the denominators across. Reduce the answer to its lowest terms.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Reduction of Risk Potential

Cognitive Level: Analyze

Difficulty: Difficult

Page and Header: 3, Fractions

Integrated Process: Communication and Documentation

Objective: 1

10. A patient/client is on a 1500 mL fluid restriction for 24 hours. At 3 PM, the client consumed  $\frac{2}{3}$  of the fluid allowance for 24 hours. What are the maximum milliliters of fluid remaining that the patient/client can consume during the evening shift?

- A) 400
- B) 450
- C) 500
- D) 550

Ans: C

Feedback: To estimate  $\frac{2}{3}$  of 1500 mL, multiply  $\frac{2}{3} \times 1500$ . Set up the fraction:  $\frac{2}{3} \square 1500/1 = 3000/3 = 1000$  mL (amount of fluid consumed in milliliters). Multiply the fraction by multiplying the numerators across and then multiplying denominators across. Reduce the answer to its lowest terms. To determine the amount of fluid left to be consumed, subtract 1000 (amount of fluid consumed) from 1500 mL (total amount of fluid for 24 hours), which equals 500 mL (maximum fluid to be administered during evening shift).

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 3, Fractions; 10, Decimals

Integrated Process: Teaching/Learning

Objective: 1, 5

11. A patient/client drank 0.375 mL of a medication that was available as 0.75 mL. List the amount of medication consumed as a fraction of the whole.

- A)  $\frac{1}{5}$
- B)  $\frac{1}{4}$
- C)  $\frac{1}{3}$
- D)  $\frac{1}{2}$

Ans: D

Feedback: The patient/client consumed 0.375 mL of 0.75 mL of a medication. To estimate the amount consumed, as a fraction of the whole, set up the problem as division:  $0.375/0.750$ . Clear the decimal points in both the numerator and the denominator by moving each decimal point three places to the right. Therefore,  $375/750 = 0.5$  (or  $1/2$ ).

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals

Integrated Process: Teaching/Learning

Objective: 3

12. A laboratory report listed the following four results: bilirubin (0.2), creatinine (1.46), creatinine (0.09), and albumin (0.75). Identify the smallest amount.

- A) 0.2
- B) 1.46
- C) 0.09
- D) 0.75

Ans: C

Feedback: The correct order from smallest to largest is 0.09, 0.2, 0.75, and 1.46. Size is determined by the number of places that come after the decimal point. One place is "tenths," two places is "hundredths," and three places is "thousandths." Therefore, 0.09, read as nine hundredths, is smaller than two tenths, seventy-five hundredths, and one and forty-six hundredths.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Physiological Adaptation

Cognitive Level: Apply

Difficulty: Moderate

Page and Header: 10, Decimals

Integrated Process: Teaching/Learning

Objective: 3

13. The laboratory report included these four numbers: 0.355, 0.3, 0.03, and 0.035. Which decimal is the largest?

- A) 0.3
- B) 0.03
- C) 0.035
- D) 0.355

Ans: A

Feedback: The correct sequence from smallest to largest is 0.355, 0.035, 0.03, and 0.3. Size is determined by the number of places that come after the decimal point. One place is "tenths," two places is "hundredths," and three places is "thousandths." Therefore, three tenths is larger than three hundredths, thirty-five thousandths, and three hundred and fifty-five thousandths.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Analyze

Difficulty: Difficult

Page and Header: 10, Decimals; 15, Percents

Integrated Process: Teaching/Learning

Objective: 4, 5, 6, 7

14. A patient/client's oral ibuprofen suspension dose contains 325 mg per teaspoon. A dose of 100 mg represents what percentage of this dosage?

- A) 29.7
- B) 30.8
- C) 31.7
- D) 32.8

Ans: B