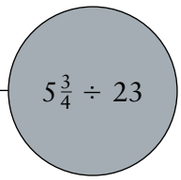
Chapter

1

Review of Arithmetic for Medical Dosage Calculations

Chapter Overview



Chapter 1 reviews the arithmetic concepts needed for the rest of the textbook. It covers the basics of whole numbers, fractions, decimal numbers, and percents. It includes a Diagnostic Test to evaluate the student's knowledge of the arithmetic required for medical dosage calculation. This chapter can be omitted for those students who are proficient in basic arithmetic.

Instructor's Notes

- The Diagnostic Test may be used in a number of ways. It can be given at the beginning of the first class, and the teacher or students can grade the test. The test results can then be used to initiate a discussion of those areas of arithmetic in which the students show weakness.
- This chapter can also be assigned as independent study. The students can take the Diagnostic Test and then review those sections of the chapter that need review. Subsequent class meetings can address areas of student concern.
- The teacher can first present a review of basic arithmetic following the flow of the topics and examples in the chapter and then assign the Diagnostic Test for homework. The Try These for Practice problems can be done in class or at home.
- Calculator keystroke sequences in the margins are provided to help the students improve their calculator proficiency. Students should be encouraged to work the problems by hand and then check their answers on a calculator.

  The Try These for Practice problems are designed to be done in class but may be designated for homework. The Exercises and/or the Additional Exercises can be given as homework or as in-class assignments. The answers to the Diagnostic Test, the Try These for Practice, and the Exercises are in Appendix A of the textbook. The answers for the Additional Exercises are not in the textbook for the benefit of the instructor who prefers to give homework without answers provided.
- The answers to the Additional Exercises are in this Instructor's Resource Manual.

Key Terms

approximate answer
canceling
complex fraction
decimal
denominator
fraction
improper fraction
mixed number
numerator
percentage
percent of change
proper fraction
rate
ratio
rounding down
rounding off
truncating

Answers to Chapter 1 Additional Exercises

1. $\frac{17}{20}$
2. $5\frac{3}{4}$
3. $11\frac{1}{4}$
4. $1\frac{3}{10}$
5. $4\frac{1}{11}$
6. $22\frac{2}{5}$
7. $\frac{2}{3}$
8. 0.12
9. 0.56
10. 5.3
11. 0.005
12. 0.01
13. 0.87
14. 0.0273
15. 2.0
16. 0.7
17. 0.7
18. 0.055
19. 0.55
20. 28.75
21. 0.4
22. 2,345.6
23. 28.3
24. 70.83
25. $1\frac{1}{35}$ and 1.0
26. $5\frac{1}{3}$ and 5.3
27. $\frac{1}{3}$ and 0.3
28. $111\frac{1}{9}$ and 111.1
29. $\frac{103}{1{,}000}$ and 0.1
30. $\frac{199}{200}$ and 1.0
31. $\frac{5}{8}$
32. $\frac{2}{3}$
33. 9
34. 30
35. 4.85
36. 0.63
37. 0.37
38. 150
39. 25% increase
40. 20% decrease

Chapter 1 Examination Questions

Convert these to fractions in lowest terms.

1. 0.45
2. 8:10

Convert these fractions to decimals numbers rounded *off* to the nearest tenth.

3. $\frac{5}{8}$
4. $\frac{72}{7}$

Convert to decimal numbers rounded *down* to tenths.

5. $\frac{12.783}{10}$
6. $\frac{0.0174}{0.12}$

Multiply the numbers.

7. 6.35×0.34

8. $5.2 \times 1{,}000$

Divide the decimal numbers and round *off* the answers to the nearest hundredth.

9. $0.43 \div 0.03$

10. $56.9 \div 100$

Write the answers as fractions in lowest terms.

11. $\frac{22}{15} \times \frac{70}{60} \times \frac{15}{77}$

12. $0.735 \div 0.84$

Write the percentage as a decimal number.

13. 5.5%

14. 45%

Write the percentage as a fraction in lowest terms.

15. 62.5%

16. 0.9%

Simplify to the form of a simple fraction in lowest terms.

17. $\frac{2/2}{6}$

18. $\frac{0.02}{0.3}$

19. Which is larger quantity? 0.7 or $\frac{3}{4}$

20. What is 25% of 80?

21. $\frac{3}{5} = \frac{?}{25}$

22. $\frac{8}{64} = \frac{?}{16}$

23. $8.25 - 3.012 = ?$

24. Write the answer in mixed fractional form: $8.5 + 3\frac{3}{4}$

25. A dosage is increased from 10 ounces to 12 ounces. What is the percent of increase?

Answers to Chapter 1 Examination Questions

1. $\frac{9}{20}$	2. $\frac{4}{5}$	3. 0.6	4. 10.3
5. 1.2	6. 0.1	7. 2.159	8. 5,200
9. 14.33	10. 0.57	11. $\frac{1}{3}$	12. $\frac{7}{8}$
13. 0.055	14. 0.45	15. $\frac{5}{8}$	16. $\frac{9}{1{,}000}$
17. $\frac{1}{9}$	18. $\frac{1}{15}$	19. $\frac{3}{4}$	20. 20
21. 15	22. 2	23. 5.238	24. $12\frac{1}{4}$

25. 20%