



Basic Algebra – Unit 3: Fractions, Decimals, and Percentages

Study Guide

Text: Introductory Technical Mathematics, 6th Edition

Note: Do “Odd” numbered problems only

1. Review course structure.
2. Read pages 95 to 97, 3.1 to 3.4 and do Exercises 3-4, page 97, #1-5, #13-17, #21-26 for practice.
3. Watch YouTube video, “Decimal Inches, Fractional Inches,” found at:
<https://www.youtube.com/watch?v=dXQKbLRtoqA>
4. Read page 98, 3-5, Rounding Decimal Fractions and do Exercises 3-5, page 98, # 5-9 for practice.
5. Read page 98, 3-6 Expressing Common Fractions as Decimal Fractions and 3-7 Expressing Decimal Fractions as Common Fractions and do Exercises 3-7, page 100, # 1-23 for practice.
6. Read page 100, Expressing Decimal Fractions in Practical Application and do Exercises 3-8, pages 100-101, # 1-7.
7. Read page 101-102, 3-9, Adding Decimal Fractions; and page 102, Subtracting Decimal Fractions and do Exercises 3-10, pages 102-103, # 1-25, # 33-37, # 45-55 for practice.
8. Read page 103-104, Adding and Subtracting Decimal Fractions in Practical Applications and do Exercises 3-11, pages 104-106, # 1-7 for practice.
9. Read pages 106-107, Multiplying Decimal Fractions, and do Exercises 3-12A, pgs. 107-108, # 5-11, # 15-21 and # 25-37 for practice; and Exercises 3-12B (Multiplying by Powers of 10), page 109, # 1-15 for practice.
10. Read page 109, 3-13, Multiplying Decimal Fractions in Practical Applications and do Exercises 3-13, pages 109-111, # 1-7 for practice.
11. Read page 112 (Dividing Decimal Fractions) and do Exercises 3-14A, page 112-113, # 1-19; and Exercises 3-14B (Dividing by Powers of 10), page 113, # 1-7 for practice.
12. Read page 114 Dividing Decimal Fractions in Practical Applications and do Exercise 3-15, pages 115-116, # 1-9 for practice.
13. Read page 117-119 on: Powers and Roots of Decimal Fractions; Description of Roots; Expressions Enclosed Within the Radical Symbol and do Exercises 3-16A, page 118, # 5-21 and 3-16B, page 119, # 17-25 for practice and read pages 119-120 – “Roots that are not Whole Numbers”.





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14. Read page 120, 3-17, Decimal Fraction Powers and Roots in Practical Applications and do the exercises on page 121 # 1-11 for practice.
15. Read pages 123-125, 3-18, Table of Decimal Equivalents and do Exercise 3-18, pages 125-126, # 3-19 for practice.
16. Read pages 126-127, 3-19, Combined Operations of Decimal Fractions and do Exercises 3-19, page 127, # 11-25 for practice.
17. Read pages 128, 3-20, Combined Operations of Decimal Fractions in Practical Applications and do Exercises 3-20, pages 128-131, # 1-7 for practice.
18. Complete problems on Fractions/Decimals/Percents found at: https://www.khanacademy.org/math/pre-algebra/order-of-operations/order_of_operations/v/introduction-to-order-of-operations
19. Read pages 166-169, Sections 5-1 to 5.5, about Percents, Decimals, Fractions and Mixed Numbers. Do Exercises 5-3, page 168, # 1-21 and 5-5, page 169, # 1-27 for practice
20. Read pages 169-178, Sections 5-6 to 5.10, about Percent Problems, Practical Applications, Rates, Bases and more Complex Problems. Do Exercises 5-6, page 171, # 1-19; 5-7A, page 172, # 1-7; 5-7B, page 173, # 1-15; 5-8A, page 174, # 1-9; 5-8B, page 175-176, # 1-11; 5-9, pages 176-177, # 1-9; and 5-10, pages 178-180, # 1-17.
21. Complete problems on Taxes found at: <https://www.khanacademy.org/economics-finance-domain/core-finance/taxes-topic/taxes/v/calculating-state-taxes-and-take-home-pay>
22. Complete problems on Markup and Commissions found at: https://www.khanacademy.org/math/pre-algebra/decimals-pre-alg/percent-word-probs-pre-alg/e/markup_and_commission_word_problems
23. Complete problems found on Percent found at: <https://www.khanacademy.org/math/pre-algebra/decimals-pre-alg/percent-word-probs-pre-alg/v/growing-by-a-percentage> and Percent Word Problems found at: <https://www.khanacademy.org/math/algebra-basics/core-algebra-foundations/algebra-foundations-decimal-operations/v/another-percent-word-problem>
24. Complete Unit Lab/Test in lab. See lab instructor.





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