Basic Algebra – Unit 12: Ratios & Proportions, Quadratic Equations and Right Triangles
Study Guide
Text: Introductory Technical Mathematics, 6th Edition, Chapters 4, 18, & 35

Note: Do "Odd" numbered problems only

1. Review course structure.

2. Read Units 4.1 to 4.2: pages 152-154: Description of Ratios and Order of Terms of Ratios.

3. Do Exercises 4.2: pages 154-155: # 1-31 for practice.

4. Read Unit 4.3: pages 155-157: Description of Proportions.

5. Do Exercises 4.3: pages 157-158: # 1-23 for practice.

6. Read Units 4.4 and 4.5: pages 158-161: Direct and Inverse Proportions.

7. Do Exercises 4.5: pages 161-162: # 1-9 for practice.

8. Complete Percent Word Problems found at: https://www.khanacademy.org/math/algebra-basics/core-algebra-foundations/algebra-foundations-decimal-operations/v/another-percent-word-problem

9. Complete Mixtures Word Problems found at: https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-linear-equations-word-problems/v/mixture-problems-2

10. Complete Age Word Problems found at: https://www.khanacademy.org/math/in-eighth-grade-math/linear-equations-one-variable/some-more-applications-1/v/ex-3-age-word-problem

11. Complete Coin Word Problems found at: https://www.khanacademy.org/math/algebra/systems-of-linear-equations/systems-of-linear-equations-word-problems/v/substitution-method-3

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12. Review course structure for Unit 18 – Quadratic Equations.

13. Watch YouTube video entitled, "Quadratic Functions Quick Graphing Method," found at https://www.youtube.com/watch?v=q9EpjGLIBUw&list=PLgtmo2gg-C6sRWoF7uae4sqylBUtFShQV&index=23

14. **Watch**: https://www.youtube.com/watch?v=vH87cauArwU&index=26&list=PLgtmo2gg-C6sRWoF7uae4sqylBUtFShQV
    Title: Quadratic Functions: How to Solve Quadratic Equations"
    Author: Quick Stop Math Shop

15. Read Units 18.1-18.2: pages 427-429: General Form of Quadratic Equations and Incomplete Quadratic Equations.

16. Do Exercises 18.2A: pages 429-430: # 1-19 for practice.

17. Do Exercises 18.2B: pages 430-432: # 1-11 for practice.

18. Read Unit 18.3: pages 432-435: Complete Quadratic Equations.

19. Do Exercises 18.3: page 436: # 1-39 for practice.

20. Read Unit 18.4: pages 436-438: Practical Applications of Complete Quadratic Equations.

21. Do Exercises 18.4: page 438-441: # 1-13 for practice.

22. Read Unit 18.5: pages 442-444: Word Problems Involving Complete Quadratic Equations.

23. Complete Quadratic Equation Word Problems found at https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/v/application-problem-with-quadratic-formula

24. Do Exercises 18.5A: page 444: # 1-9 for practice.

25. Do Exercises 18.5b: pages 444-446: # 1-9 for practice.
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26. Review course structure for Unit 35: Practical Applications with Right Triangles.

27. Read Unit 35.1: pages 740-743: Solving Problems Stated in Word Form.

28. Do Exercises 35.1: pages 743-744: # 1-15 for practice.

29. Read Unit 35.2: pages 745-749: Solving Problems Given in Picture Form that Require Auxiliary Lines.

30. Do Exercises 35.2: page 749-753: # 1-17 for practice.

31. Complete exercises on Pythagorean Theorem found at: https://www.khanacademy.org/math/basic-geo/basic-geo-pythagorean-topic/basic-geo-pythagorean-theorem/v/pythagorean-theorem-1

32. Complete Unit Lab/Test in lab. See lab instructor.

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