



Basic Algebra – Units 6 and 7: US and Metric Measurement Systems Study Guide

Text: Introductory Technical Mathematics, 6th Edition, Chapters 8 and 9

Note: Do “Odd” numbered problems only

1. Review course structure.
2. Review tutorial on Measurement Systems found at: <https://www.khanacademy.org/math/pre-algebra/rates-and-ratios/metric-system-tutorial/v/u-s-customary-and-metric-units>
3. Read pages 237-238: Unit 8.1: Linear Units.
4. Read pages 238-241: Unit 8.2: Expressing Equivalent Units of Measure.
5. Do Exercises 8.2A (page 239) # 1-11; 8.2B (page 240) # 1-7; 8.2C (page 240) # 1-11; and 8.2D (page 241) # 1-17 for practice.
6. Read pages 241-241: Unit 8.3: Arithmetic Operations with Compound Numbers.
7. Do Exercises 8.3A (pages 242-243) # 1-23 and 8.3B (page 244) # 1-23 for practice.
8. Read pages 244-245: Unit 8.4: Linear Practical Applications
9. Do Exercises 8.4 (pages 245-247) # 1-9 for practice.
10. Read pages 248-249: Units 8.5 and 8.6: Surface Measurements (Area) and Practical Applications
11. Complete problems on Area Measurements found at: <https://www.khanacademy.org/math/pre-algebra/measurement/area-basics/v/introduction-to-area-and-unit-squares>
12. Do Exercises 8.5 (pages 249) # 1-23 and 8.6 (page 250) # 1-7 for practice.
13. Read pages 250-252: Units 8.7 and 8.8: Volume(Cubic) Measurements and Practical Applications
14. Do Exercises 8.7 (page 251) # 1-19 and 8.8 (page 252) # 1-5 for practice.
15. Read pages 252-254: Units 8.9 and 8.10: Capacity Measurements and Practical Applications
16. Do Exercises 8.9 (page 253) # 1-13 and 8.10 (page 254) # 1-9 for practice.





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17. Read pages 254-256: Units 8.11 and 8.12: Weight (Mass) Measurements and Practical Applications
18. Do Exercises 8.11 (page 255) # 1-9 and 8.12 (page 256) # 1-7 for practice.
19. Read pages 256-259: Units 8.13 and 8.14: Compound Units and Practical Applications
20. Do Exercises 8.13A (page 257) # 1-9, 8.13B (page 257) # 1-5 and 8.14 (pages 259-259) # 1-7 for practice.
21. Review course structure for Chapter 9 – Metric Measurements
22. **Watch:** https://www.youtube.com/watch?v=436E_5CerPQ
Title: Understanding the Metric System
Author: SmithMathAcademy
23. **Watch:** <https://www.youtube.com/watch?v=d8EVB8Jn5hM>
Title: Convert Metric Length to Feet-Inches and Back
Author: apprenticemath
24. Read pages 262-264: Unit 9.1 – Linear Metric Units
25. Do Exercises 9.1A (page 263) # 1-7 and 9.1B (page 263) # 1-7 for practice.
26. Read pages 265-265: Unit 9.2 – Equivalent Metric Units
27. Do Exercises 9.2 (pages 265-266 # 1-27 for practice.
28. Read pages 266-267: Units 9.3 and 9.4 – Linear Metric Measurements and Practical Applications
29. Do Exercises 9.4 (page 267) # 1-5 for practice.
30. Read pages 267-270: Units 9.5, 9.6 and 9.7 – Area (Surface) Metric Measurements and Practical Applications.
31. Do Exercises 9.5 (page 269) # 1-5 and 9.7 (page 270) # 1-5 for practice.
32. Read pages 270-272: Units 9.8, 9.9 and 9.10 – Volume (Cubic) Metric Measurements and Practical Applications.





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33. Do Exercises 9.8 (page 272) # 1-19 and 9.10 (page 273) # 1-5 for practice.
34. Read pages 273-274: Units 9.11 and 9.12 – Capacity Metric Measurements and Practical Applications
35. Do Exercises 9.11 (page 274) # 1-13 and 9.12 (page 274-275) # 1-9 for practice.
36. Read pages 275-276: Units 9.13 and 9.14 – Weight (Mass) Metric Measurements and Practical Applications
37. Do Exercises 9.13 (page 275) # 1-9 and 9.14 (page 276) # 1-7 for practice.
38. Read pages 276-278: Units 9.15 and 9.16 – Compound Units – Metric and Practical Applications
39. Do Exercises 9.15A (page 277) # 1-7, 9.15B (page 278) # 1-5 and 9.16 (pages 278-279) # 1-7 for practice.
40. Read pages 279-282: Unit 9.17 – Prefixes for very large and very small Numbers
41. Do Exercises 9.17A (page 281) # 1-15, 9.17B (page 282) # 1-5 and 9.17C (page 282) # 1-17 for practice.
42. Read pages 282-285: Unit 9.18 – Conversion between Metric and US Systems
43. Do Exercises 9.18A (page 283) # 1-9, 9.18B (page 284) # 1-7, 9.18C (page 285) # 1-7 and 9.18D (page 286) # 1-5 for practice.
44. Complete the following exercises on Conversion:
 - Converting Lengths: https://www.khanacademy.org/math/pre-algebra/rates-and-ratios/unit_conversion/v/unit-conversion-with-fractions
 - Converting Time: <https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic/cc-4th-convert-time/v/time-unit-conversion>
 - Converting Weight: https://www.khanacademy.org/math/pre-algebra/rates-and-ratios/unit_conversion/v/converting-pounds-to-ounces
 - Converting Volumes: <https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic/cc-4th-convert-volume/v/converting-us-fluid-volume>





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Converting Metric Weight: <https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic/cc-4th-unit-conversion/v/converting-weight>

Converting Measurements – Word Problems: https://www.khanacademy.org/math/pre-algebra/rates-and-ratios/unit_conversion/v/converting-units-of-length

45. Practice Test: Conversion Exam found at:

<http://www.saddleback.edu/faculty/lperez/algebra2go/prealgebra/review/ex351Pr04.pdf>

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





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