



Basic Algebra – Unit 8: Accuracy of Measurements, Precision, and Tolerance Study Guide

Text: Introductory Technical Mathematics, 6th Edition

Note: Do “Odd” numbered problems only

1. Review course structure.
2. Read Units 7.1 to 7.4: pages 220-223: Exact Numbers, Degree of Precision of Instruments, Common Instruments and Degree of Precision of Numbers
3. Do Exercises 7.4: page 224: # 1-11 for practice.
4. Read Unit 7.5: pages 224: Degrees of Precision in Adding and Subtracting
5. Complete all problems on Significant Digits found at:
https://www.khanacademy.org/math/arithmetic/decimals/significant_figures_tutorial/v/significant-figures
6. Complete all problems on Addition and Subtraction of Significant Digits found at:
https://www.khanacademy.org/math/arithmetic/decimals/significant_figures_tutorial/v/addition-and-subtraction-with-significant-figures
7. Do Exercises 7.5: page 224: # 1-11 for practice.
8. Read Unit 7.6: pages 224-225: Significant Digits
9. Do Exercises 7.6: page 225: # 1-19 for practice.
10. Read Unit 7.7: pages 225-226: Accuracy
11. Do Exercises 7.7: page 226: # 1-15 for practice.
12. Read Unit 7.8: page 226: Accuracy in Multiplying and Dividing
13. Complete exercises on Multiplying and Dividing of Significant Digits found at:
<https://www.khanacademy.org/math/pre-algebra/decimals-pre-alg/sig-figs-pre-alg/v/multiplying-and-dividing-with-significant-figures>
14. Do Exercises 7.8: page 227: # 1-15 for practice.





Basic Algebra – Unit 8: Accuracy of Measurements, Precision, and Tolerance Study Guide

Text: Introductory Technical Mathematics, 6th Edition

15. Read Unit 7.9: pages 227-228: Absolute and Relative Error
16. Do Exercises 7.9: page 228: # 1-11 for practice.
17. Read Unit 7.10: pages 228-229: Linear Tolerance
18. Do Exercises 7.10: page 229: # 1-11 for practice.
19. Read Unit 7.11: pages 229-231: Unilateral and Bilateral Tolerance
20. Complete exercises on Tolerances found at: https://en.wikipedia.org/wiki/Engineering_tolerance
21. Do Exercises 7.11: pages 231-232: # 1-19 for practice.
22. Complete Unit Lab/Test in lab. See lab instructor.





Basic Algebra – Unit 8: Accuracy of Measurements, Precision, and Tolerance

Study Guide

Text: Introductory Technical Mathematics, 6th Edition

SAFETY DISCLAIMER:

M-SAMC educational resources are in no way meant to be a substitute for occupational safety and health standards. No guarantee is made to resource thoroughness, statutory or regulatory compliance, and related media may depict situations that are not in compliance with OSHA and other safety requirements. It is the responsibility of educators/employers and their students/employees, or anybody using our resources, to comply fully with all pertinent OSHA, and any other, rules and regulations in any jurisdiction in which they learn/work. M-SAMC will not be liable for any damages or other claims and demands arising out of the use of these educational resources. By using these resources, the user releases the Multi-State Advanced Manufacturing Consortium and participating educational institutions and their respective Boards, individual trustees, employees, contractors, and sub-contractors from any liability for injuries resulting from the use of the educational resources.

DOL DISCLAIMER:

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

RELEVANCY REMINDER:

M-SAMC resources reflect a shared understanding of grant partners at the time of development. In keeping with our industry and college partner requirements, our products are continuously improved. Updated versions of our work can be found here: <http://www.msamc.org/resources.html>.

