

MAT 108-03
Spring 2008

Assignment 10 (Significant Digits)

For this assignment, refer to the exercises that begin on page 14 of the handout on “Error Analysis”. Note that answers to the problems are at the back of the handout.

p. 14 of the handout

A. 1, 2

B. To be turned in:

Determine the number of significant digits in the approximate number **.000526970** and round the given approximate number to four significant digits.

Assignment 11 (Measurement Error)

For this assignment, refer to the exercises that begin on page 14 of the handout on “Error Analysis”. Note that answers to the problems are at the back of the handout.

p. 14 of the handout

A. 3, 5ab, 6

B. To be turned in:

- Find the default error for the following approximate number: **.3422**.
- Using the measured value to approximate the exact value, find the relative and percentage errors for the following approximate number:
 $6.542 \pm .025$.

Assignment 12 (Precision and Accuracy)

For this assignment refer to the exercises that begin on page 14 of the handout on “Error Analysis”.

p. 15 of the handout

A. 7, 8, 9

Be able to justify your answers.

B. To be turned in:

In the following two problems, justify your answers with an explanation.

- Which approximate number is more precise, **16.32** or **2.457**?
- Which approximate number is more accurate, **435.1** or **57.6**?

Assignment 13 (Computations with Approximate Numbers – Propagated Error)

For this assignment refer to the exercises that begin on page 14 of the handout on “Error Analysis”.

p.15-16 of the handout

10

In doing these problems, explain in each problem why you rounded to the decimal place or number of significant digits that you did.