Homework Feedback 1

2010/10/6

Weiwei Xu

**P. 27 #3** Find the largest interval with respect to relative error

The answers in the submitted homework reports are correct

**P.27 #11**

1. The limitation of function f(x)
2. Four-digit rounding to evaluate f(0.1) using trigonometric function.
3. Four-digit rounding to evaluate f(0.1) using Maclaurin polynomial

Typical errors:

1. 0.1 is *radian* not degree. Some homework reports took 0.1 as degree.
2. Do not strictly follow the rule of four digit rounding.

**Question:** why f(0.1) = -1.9989998 is the correct answer?

**Answer:** Calculate f(0.1) using the *calculator* software, since the software uses high-precision floating point representation.

**P.27 #11 b**

b. which method is better to find the x-intercept of the line.

The answers in the submitted homework reports are correct: *the second one is better.*

Typical errors:

1. A few students answered the first one was better.
2. Do not discuss the deep reason why the second way to compute the x-intercept is better. Note that the second one reduces the number of multiplications.

**P.27 #7** Find out the rate of the convergence of the listed sequences

The answers in the submitted homework reports follow the definition of the ratio of convergence on Page 36 and 37 of the textbook, but I found some *derivation errors* in the reports.

Typical errors:

1. Forget to minus the limit of the sequence in the derivation, which is in Definition 1.18. For example:

