

SIO203C/MAE294C Spring 2025

Class times: Lectures are from 9:00am to 10:20am on Mondays and Wednesdays. The recitation is scheduled from 9:00am to 10:20am on Fridays.

Instructor: Bill Young with email wryoung@ucsd.edu. I won't enter into extended electronic correspondence with individual students. But for a quick question please feel free to email. This is particularly useful if you suspect there is a misprint in class notes, or if you're stuck on an apparently insoluble homework problem.

Friday recitations: Each week I'll set problems for discussion in the Friday recitation. The recitation is not a third lecture: you should come prepared to recite. I'll encourage an interactive session. Let's see how the first one goes this Friday the 4th of April.

I'll try to set more problems than you can do in the time available. Please read the whole assignment and choose the problems that best tests your understanding of the lectures i.e. is this problem easy or difficult? Come prepared to do *some* of the suggested problems.

Hand-in assignments: I'll set five or six assignments, each with two or three problems. Assignment answers should be emailed to me. Please use latex or an equivalent mathematical typesetting program to write your answers – I'll distribute a latex template. I'll grade the hand-in problems and give credit for completion of those (see below).

Collaboration: Discussing the recitation problems and the hand-in assignments with your colleagues is encouraged. After discussion you should go away and write the assignment by yourself. Your assignment should acknowledge your main collaborators.

Questions about the hand-in assignments are welcome during Friday recitations. Alternatively if you email me a question regarding the assignments, I'll answer such questions during lectures so that everyone has access to that information.

Class website: <https://pordlabs.ucsd.edu/wryoung/teaching/SIO203C.html>

I'll try to put everything on the class website e.g. the class notes are there now.

Assessment and grade: About 25% of the grade is based on hand-in assignments. The remainder is based on a mid-term and final. The mid-term will be sometime in week 5 – perhaps Friday May 2nd. I'm currently planning an in-class final e.g. on Friday June 6th. Exam questions will be *very similar* to the assigned problems. The exams are closed book with no computers, calculators, iphones or other electronic assistance. Exams are “open notes” – you can bring in any amount of hand written (or hand typed) material.

Office hours: Please feel free to email me for an appointment. Or you can speak with me after lectures.

Class notes: There is a complete set of notes including references to some textbooks on perturbation theory and asymptotic methods. The notes are now available on the class website.

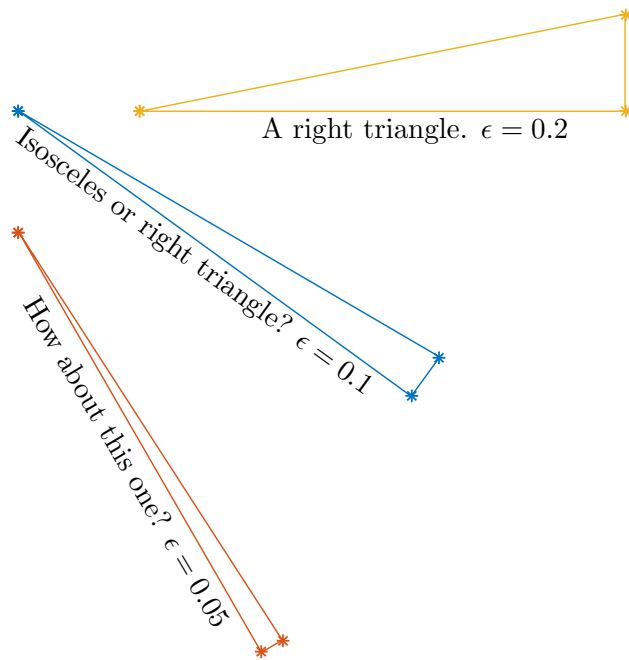


Figure 1: Right angled triangles with sides 1, ϵ and $\sqrt{1 + \epsilon^2}$.

Is this an ellipse
or a circle?

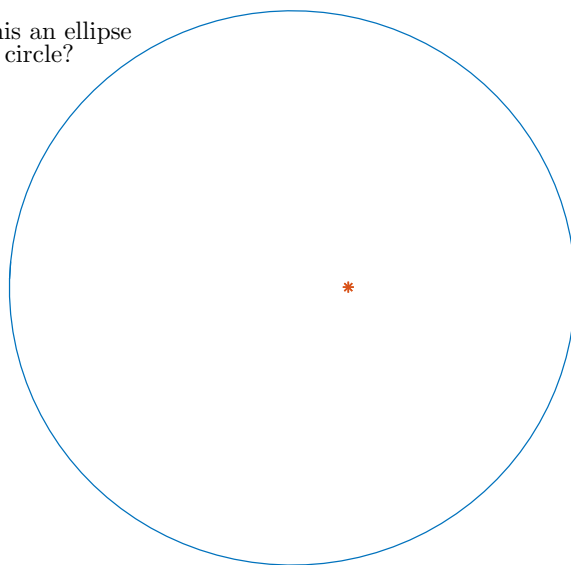


Figure 2: The orbit of Mercury with $e = 0.2$. The sun is at $*$.