

**MATH 126C SUMMER 2018
MIDTERM 1 REVIEW**

Preparation:

- The exam is on Thursday, July 12th in TA session:
10:50am -11:50am BNS Room 117
- You should bring a Ti-30x IIS Calculator.
- You can bring one hand-written 8.5 by 11 inch page of notes (double-sided).
- The midterm covers Section 12.1-12.6, 13.1-13.3.
- To prepare for the midterm, please review all homework problems and look at the exams in the department archive, starting from the most recent ones. When you practice with those old exams, please work out all the details and pay attention to the time. It is important to know that you need to show your work in the exam to get the credits and you have 60 mins.

Topics:

- (1) Vector operations: sums, scalar multiples, dot products, cross products. Know how to check orthogonality, parallel, find the angle between, area of parallelogram/triangle, projections.
- (2) Working with line and plane equations, intersections.
- (3) Spheres, cylinders, quadric surfaces. Know how to sketch the surfaces using traces. Know how to determine the shapes (and names) of quadric surfaces.
- (4) Working with parametric equations of curves in \mathbb{R}^3 : tangent vector, unit tangent vector, tangent line, unit normal, arc length, curvature, normal plane and osculating plane.