EXAM 1 IS THURSDAY IN QUIZ SECTION

Allowed:

1. A **Ti-30x IIS Calculator**
2. An 8.5 by 11 inch sheet of handwritten notes (front/back)
3. A pencil or black/blue pen

Details and rules:

1. 4 pages of questions, 50 minutes, use your time effectively.

2. **Show your work using methods from class.** The correct answer with no supporting work is worth zero points.

3. Clearly indicate work you want graded. Put a box around your final answers.

4. No make-up exams; if you are physically unable to be at the test, go to doctor and get documentation (and your grade will be prorated)

5. Leave your answer in exact form, BUT simplify standard trig, inverse trig, natural logarithm, and root values. Here are examples of values you should know:

$\sqrt{4} =$, $8^{2/3} =$, $\frac{3}{2} - \frac{2}{5} =$

$\cos(0) =$, $\cos(\pi) =$, $\cos\left(\frac{\pi}{6}\right) =$

$\sin\left(\frac{3\pi}{4}\right) =$, $\tan\left(\frac{\pi}{4}\right) =$, $\tan^{-1}(1) =$

$\ln(1) =$, $\ln(e) =$, $e^0 =$

Quick Review

1. (12.1-12.4) Vectors & 3D
   - Scaling
   - Unit Vectors
   - Subtracting
   - Adding
   - Dot Products (angle between)
   - Cross Products (interpret)
   - Projections

   - xy-plane, xz-plane, yz-plane
   - x-axis, y-axis, z-axis
   - distance formula, sphere

2. (12.5) Lines and Planes
   - Line: Point and Direction
   - Plane: Point and Normal

3. (12.6) Seven Surfaces (traces)

4. (13.1-13.4) 3D Parametric
   - Plotting points
   - Eliminating parameter
   - Tangent vector
   - Tangent line

   - Principal unit normal
   - Arc Length
   - Curvature (3D and 2D)
   - Velocity/Acceleration/Speed

   - Intersection of curves (collide?)
   - Intersection of curve and surface
   - Intersection of two surfaces