## Homework 2

From the book of Hildebrand, Chapter 6

1. Solve problem 30,31 .
2. Solve problem 35. Show that the unit tangent, normal and binormal vectors satisfy the Frenet equation.
3. Determine the curvature and the torsion of the twisted cubic

$$
x=t \quad y=\alpha t^{2} \quad z=\beta t^{3}
$$

at the point $(1,1,1) . \alpha$ and $\beta$ are arbitrary constants.
4. Solve problem 45.
5. Solve problem 47 in all details.
6. Solve problem 55.
7. Solve problem 57.

