

V63.0123-1 : Calculus III. Homework 2 (revised)

due Wed Feb 5 at lecture

13.4:

8.

9.

12.

26. Please also find the *two* unit vectors normal to the plane.

40.

42. If you choose not to write out everything possible here, you need to explain why the stuff you don't write out works.

13.5:

5.

8.

30.

34.

62.

13.6:

18.

13.7:

22.

and...

Question A1 (not in book): Find the angle in degrees between the vector from the origin to cylindrical coordinate $(r, \theta, z) = (4, 3\pi/4, 3)$ and the vector from the origin to the spherical coordinate $(\rho, \theta, \phi) = (1, -\pi/2, 3\pi/4)$. [Hint: you may want to convert to a different coordinate system!]