VP160 Recitation Class II

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Problem 5

Recall that $\mathbf{r} = x\hat{n}_x + y\hat{n}_y + z\hat{n}_z$ is the position vector pointing from the origin $(0; 0; 0)$ to a point in space with the Cartesian coordinates (x, y, z). Use what you know about vectors to show the following: All points (x, y, z) that satisfy the equation $Ax + By + Cz = 0$, where A, B, and C are constants, lie in a plane that passes through the origin and that is perpendicular to the vector $A\hat{n}_x + B\hat{n}_y + C\hat{n}_z$.

Problem 6(b)

Show that, for any t, the vectors $\mathbf{n}$ and $\dot{\mathbf{n}}$ are perpendicular to each other.

Reference


Yigao Fang.
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