

A line perpendicular to the given plane has the same direction as a normal vector to the plane, such as $\mathbf{n} = \langle 1, 3, 1 \rangle$. So $\mathbf{r}_0 = 3\mathbf{i} + 8\mathbf{k}$, and we can take $\mathbf{v} = \mathbf{i} + 3\mathbf{j} + \mathbf{k}$. Then a vector equation is $\mathbf{r} = (3\mathbf{i} + 8\mathbf{k}) + t(\mathbf{i} + 3\mathbf{j} + \mathbf{k}) = (3 + t)\mathbf{i} + 3t\mathbf{j} + (8 + t)\mathbf{k}$, and parametric equations are $x = 3 + t$, $y = 3t$, $z = 8 + t$.