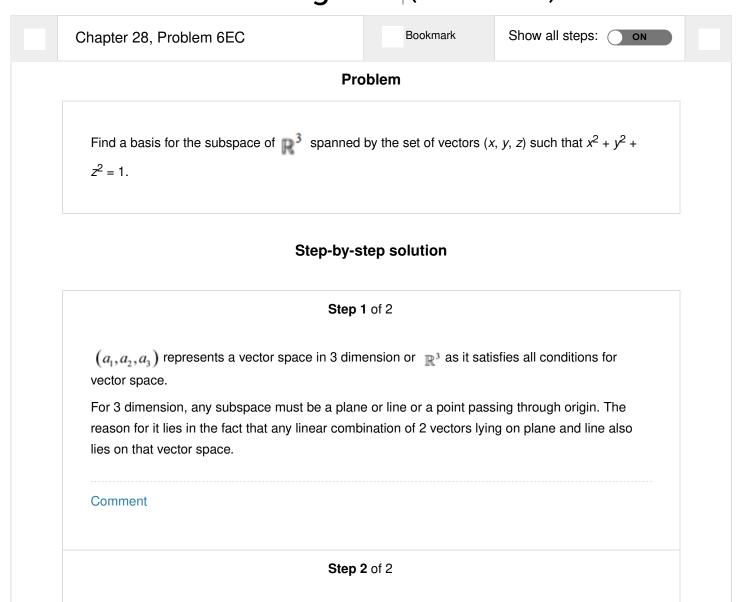
A Book of Abstract Algebra (2nd Edition)



Given condition for subspace is

$$x^2 + y^2 + z^2 = 1$$

This does not represents an equation of plane or line or point but represents an equation of a sphere of radius 1. Thus it is not a vector space.

Also points u = (1,0,0) and v = (-1,0,0) lies on vector space, but their combination,

$$u+v=(0,0,0)$$
 does not lie on sphere

Hence given set is not a subspace and there is no basis

Comment