1. Find all points of intersection of the plane 3x+9y-z=20 and the line

(x,y,z)=(5,-2,1)+t(4,1,-1)

2. Find the equation of the plane through P(1,-2,5), Q(1,5,0) and R(7,-1,3)

3. If u=(x,-x,3) and v=(-5,1,-2) are at an angle of , then x is…

4. The distance between u=(4,9,2) and v=(8,-2,7) is ...

5. Find a, b and c so that the system has the solution .

6. Compute the rank of the matrix

7. Determine the values of k so that the system of equations

has a unique solution.

8. Determine the values of k such that the system of linear equations is consistent

9. Let .

If is the augmented matrix of a system of linear equations. Solve the system.

10. Find (5v +2w)•(3v - 2w) if and v•w = -2.

11. The (2, 2)-cofactor of the matrix is: ...

12. Suppose A is a 3x3 matrix with determinant -5. Find det(-2A-1)

13. What is the determinant of the matrix ?

14. What is the characteristic polynomial of the matrix

15. Find the eigenvalues of .

16. For what values of *a* is the set of vectors

S={(4,-2,a),(1,-2,7),(9,1,3)} linearly dependent?

17. Which of the following are subspaces of R3?

(i) {(a,b-a, a+2b)|a,b∈R}

(ii) {(a+b,a+3b,2a-b)|a,b∈R}

18. Let . Find.

19. Let and .

Determine the value of m such that .

20. Let *u,v*∈R3 such that |*u|=5, |v|* =3 and *u.v=-4*. Find |7*u-2v*|.