

National Institute of Open Schooling
Senior Secondary Course
Lesson 35 : Plane
Worksheet- 35

1. Take (a, b, c) be the coordinate of point P on the plane and $l, m,$ and n be the direction cosines. Find the equation of a plane in vector form and normal form.
2. Find the vector equation of a plane passing through the point $(4, -6, 5)$ and perpendicular to the line with direction ratios $3, 2, -1$.
3. If the plane passing through three points X $(3, 5, -2)$, Y $(4, -3, 5)$, and $(-4, 3, 5)$, then find the vector equation of the plane.
4. The equation of a plane is $2x + 4y - 5z - 40 = 0$. Reduced the equation of a plane to the intercept form and find its intercepts on the co-ordinate axes.
5. If the points A $(1, 1, a)$ and B $(-3, 0, 1)$ are equidistant from the plane $3x+4y-12z+13=0$, Find the value of a .
6. Find the equation of the plane passing through the points $(2,-1,5)$, and perpendicular to the planes $x+2y-z=1$ and $3x-4y+z=5$.
7. Find the equation of the plane parallel to the plane $2x + 3y - 6z - 5 = 0$ and passing through the point $(2, 1, -3)$.
8. Find the equation of the plane passing through the origin and perpendicular to the planes $2x + 2y + 2z = 0$ and $2x + 3y - 2z=0$
9. Find the equation of the plane passing through the points A $(1, - 2, 3)$, B $(3,-1,2)$ and parallel to the lines $\frac{x-4}{1} = \frac{y+3}{-4} = \frac{z+1}{7}$
10. Find the distance between the planes $2x + 3y - 2z - 15 = 0$ and $4x + 6y - 4z - 30=0$