Planes

The plane through the point P_0 normal to $\vec{n} = Ai + Bj + Ck$ is given by the vector equation,

$$\vec{n} \cdot \vec{P_0P} = 0$$

and the component equations,

$$A(x - x_0) + B(y - y_0) + C(z - z_0) = 0$$

Given a line L and a point P in a plain you can find the equation of the plane,
Take a point Q on the line. Now fine $\vec{QP}$ and the direction vector of the line L (call that d). Now the normal $\vec{n} = \vec{QP} \times d$. Then we can use the formula $A(x - x_0) + B(y - y_0) + C(z - z_0) = 0$ to get the equation.

Distance from a Point to a Plane

The distance from a point S to a plane which contains point P and has normal vector n is,

$$d = \left| \vec{PS} \cdot \frac{n}{||n||} \right|$$

Angle Between Two Planes

$\vec{n_1}$ and $\vec{n_2}$ are the normal vectors for the 2 planes.

$$\cos(\theta) = \frac{|\vec{n_1} \cdot \vec{n_2}|}{||\vec{n_1}|| \; ||\vec{n_2}||}$$