

2.

Plug in x,y

Equation of a Plane

To determine a plane \mathcal{P} , we need a point $P(x_1, y_1, z_1)$ on \mathcal{P} and a **normal vector** $\mathbf{n} = [a, b, c]$ that is orthogonal to \mathcal{P} .

The **normal form of the equation** of a plane is

$$\mathbf{n} \cdot (\mathbf{x} - \mathbf{p}) = 0$$

The **general form of the equation** of a plane is

$$ax + by + cz + d = 0$$

Two planes in space with normal vectors \mathbf{n}_1 and \mathbf{n}_2 are either parallel or intersect in a line.

- They are **parallel** iff their normal vectors are.
- They are **perpendicular** iff their normal vectors are.

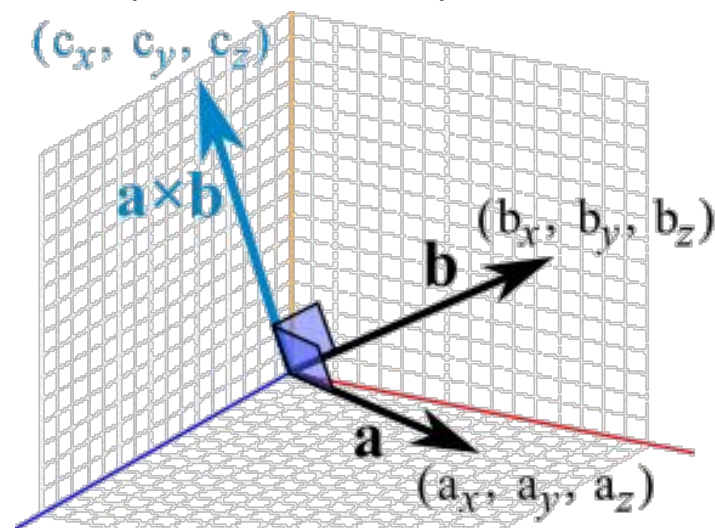
*Used for calculating shaft height and mouse x,y height

1.

I want z-value of a point on a plane. I have the x and y-values. I do this by...

4.

Get cross product with three points of the facet



3.

Get normal vector by...

