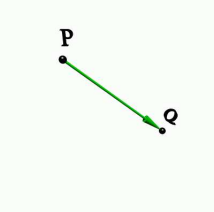
DISTANCE POINT-POINT (3D). If P and Q are two points, then

$$d(P,Q) = |\vec{PQ}|$$

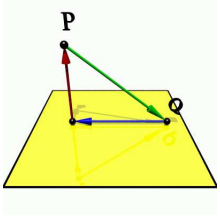
is the distance between P and Q.



DISTANCE POINT-PLANE (3D). If P is a point in space and $\Sigma : \vec{n} \cdot \vec{x} = d$ is a plane containing a point Q, then

$$d(P,\Sigma) = |(\vec{PQ}) \cdot \vec{n}|/|\vec{n}|$$

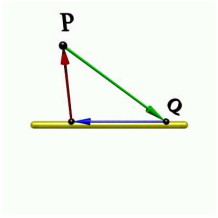
is the distance between P and the plane.



DISTANCE POINT-LINE (3D). If P is a point in space and L is the line $\vec{r}(t) = Q + t\vec{u}$, then

$$d(P,L) = |(\vec{PQ}) \times \vec{u}|/|\vec{u}|$$

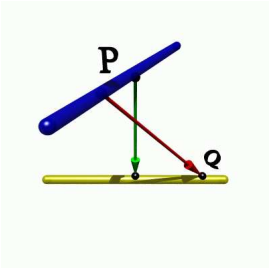
is the distance between P and the line L.



DISTANCE LINE-LINE (3D). L is the line $\vec{r}(t) = Q + t\vec{u}$ and M is the line $\vec{s}(t) = P + t\vec{v}$, then

$$d(L,M) = |(\vec{PQ}) \cdot (\vec{u} \times \vec{v})|/|\vec{u} \times \vec{v}|$$

is the distance between the two lines L and M.



DISTANCE PLANE-PLANE (3D). If $\vec{n} \cdot \vec{x} = d$ and $\vec{n} \cdot \vec{x} = e$ are two parallel planes, then their distance is $(e-d)/|\vec{n}|$. Nonparallel planes have distance 0.