Tutorial 2

This tutorial focuses on finding distances between points and linear objects in $\mathbb{R}^3$.

* Familiarise yourself with the "transition"

Parametric form

* Check that the two linear objects do not intersect with each other.

	$\vec{q}$	$\vec{r}(t)$, $\vec{d}$	$\vec{n}$, $\pi(x,y,z)=0$
$\vec{p}$	1 $\lVert \vec{p}-\vec{q} \rVert$	2 $(\vec{p}-\vec{r}(t))\cdot\vec{d}=0$ Solve for t and compute $\lVert \vec{p}-\vec{r}(t) \rVert$	3 $\pi(\vec{p}+t\vec{n})=0$ Solve for t and compute $\lVert t\vec{n} \rVert$
l		4 Case 1: parallel lines. Pick a point on l and see 2. Case 2: skew lines. Set up two equations with two unknowns	5 Pick a point on l and see 3.
P			6 Pick a point on P and see 3