Math 16C
Kouba
Optional Practice Problems

Ex: Find and simplify an equation for the set of all points (x, y, z) which are equidistant from

1.) pt. $(0,0,0)$ and pt. $(-1,2,0)$.

2.) pt. $(1,0,-2)$ and pt. $(3,1,0)$.

3.) pt. $(1,0,-1)$ and plane $Y=-2$.

4.) pt. $(3,-1,2)$ and the XZ-plane.

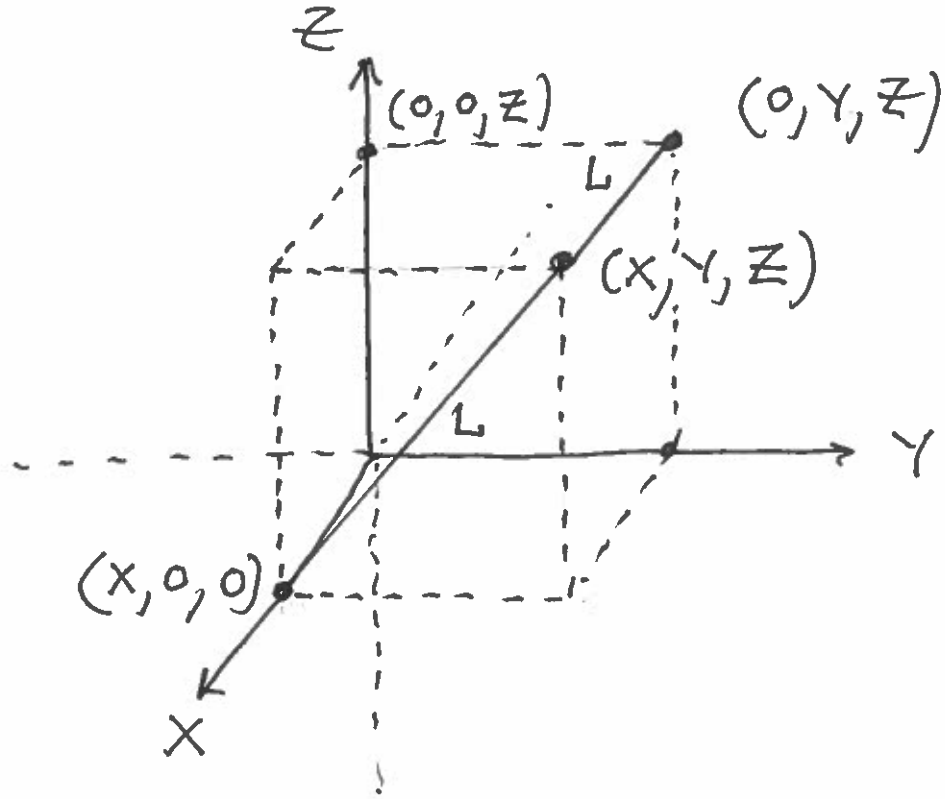
5.) pt. $(3,4,5)$ and the x-axis.

6.) pt. $(2,0,-2)$ and the z-axis.

7.) the y-axis and the plane $Z=2$.

8.) the x-axis and the YZ-plane.

Solution to 8.):



$$L = L \longrightarrow$$

$$\sqrt{(x-X)^2+(Y-0)^2+(z-0)^2} = \sqrt{(x-0)^2+(Y-Y)^2+(z-z)^2}$$

$$\rightarrow \sqrt{Y^2+Z^2} = \sqrt{X^2}$$

$$\rightarrow \boxed{\sqrt{Y^2+Z^2} = |X|}$$