

MATH 253 – WORKSHEET 1
3-SPACE

1. PLANES AND SPHERES

(1) Find the point of intersection of the planes with equations $x + y + z = 10$, $x = y$, $z = 5$.

(2) $x^2 + y^2 + z^2 = 2x + 2y$ is the equation of a sphere. Find its centre and radius.

(3) Does the sphere $x^2 + y^2 + z^2 = 2x + 2y$ intersect the plane $z = 5$?