

1.(1 pt)

What is the distance from the point (6, 3, 6) to the xz -plane?

Distance = _____

2.(1 pt) What do the following equations represent in R^3 ?

Match the two sets of letters:

- a. a vertical plane
- b. a horizontal plane
- c. a plane which is neither vertical nor horizontal

_____ A. $-3x + 2y = 6$

_____ B. $x = -6$

_____ C. $y = -9$

_____ D. $z = 0$

3.(1 pt)

Find an equation of the sphere with center (-5, 0, 4) and radius 5.

_____ = 0

Note that you must move everything to the left hand side of the equation and that we desire the coefficients of the quadratic terms to be 1.

4.(1 pt)

Find an equation of the sphere that passes through the origin and whose center is (1, 8, -2).

_____ = 0

Note that you must put everything on the left hand side of the equation and that we desire the coefficients of the quadratic terms to be 1.

5.(1 pt)

Find the center and radius of the sphere

$$x^2 + 20x + y^2 - 6y + z^2 + 10z = -109$$

Center: (_____ , _____ , _____)

Radius: _____

6.(1 pt)

Find the equation of a sphere if one of its diameters has endpoints: (-4, -12, -11) and (14, 6, 7).

_____ = 0

Note that you must move everything to the left hand side of the equation and that we desire the coefficients of the quadratic terms to be 1.

7.(1 pt)

Find an equation of the largest sphere with center (4, 8, 6) that is contained completely in the first octant.

_____ = 0

Note that you must move everything to the left hand side of the equation that we desire the coefficients of the quadratic terms to be 1.