

Math 251**Quiz 01**

September 11, 2013; 10 minutes

Name: _____

This quiz is *open-note*, but no books or calculators. On this quiz, you do not need to justify your answers in any way.

1. (3 points) You are given the following points: $A = (9, -18, -16)$, $B = (18, 0, 9)$, $C = (-6, 19, 12)$.
 - (a) Which point is closest to the (x, y) -plane?
 - (b) What is the distance from the (x, y) -plane to this point?
 - (c) What is the distance from this point to the origin?
2. Consider the sphere $(x + 2)^2 + (y - 4)^2 + (z - 1)^2 = 16$. For each of the following sets (a)–(f), say whether the intersection of the set with the sphere is zero points, one point, two points, a line, or a circle.
 - (a) (2 points) The (y, z) -plane.
 - (b) (2 points) The (x, z) -plane.
 - (c) (2 points) The (x, y) -plane.
 - (d) (1 point) The x -plane.
 - (e) (1 point) The y -plane.
 - (f) (1 point) The z -plane.