QUIZ 1

Name _____

1. Which of the points $P_1 = (23, 92, 48)$, $P_2 = (-60, 0, 0)$ and $P_3 = (60, 1, -92)$ is closest to the xz plane? Which two of the three points are closest to each other?

2. For each of the following functions, decide whether it could be a bowl, a plate or neither. Consider a plate to be any fairly flat surface and a bowl to be anything that could hold water, assuming the positive z-axis is up

   (a) $z = x^2 + y^2$

   (b) $z = 3$

   (c) $z = \sqrt{5 - x^2 - y^2}$

3. Consider the function f given by $f(x, y) = -x^2 - y^2 + 1$. Draw (sketch) a graph of the contour map for f. Describe this map. (The sketch may be very rough but your description must be pretty accurate.)