

## Quiz 3

MA 225 A1, 6/5/12

1. (a) Identify the surface  $z = x^2 - y^2$ , i.e. what is it called?

**Solution.** The surface is a *hyperbolic paraboloid* or *saddle*.

- (b) Is the graph of this surface defined by a function? Circle **YES** or **NO** and justify your answer.

**Solution.** Yes, this graph passes the vertical line test.

- (c) Sketch and label the level curves corresponding to  $z = 0$ ,  $z = 1$ ,  $z = -1$ ,  $z = 2$ , and  $z = -2$  in the  $xy$ -plane.

