

MA 2733

Worksheet 6 – October 4, 2013

Name _____

1. (a) For the surface $z = x^2 - xy + y^2$, graph several traces parallel to the xz -plane, several traces parallel to the yz -plane, and (slightly harder) several traces parallel to the xy -plane.

- (b) Using your traces, sketch and/or describe the resulting surface.

2. Do the same as problem 1, but for the surface $z = x^2 + \sin y$.
(You might not be able to find a good description of the traces parallel to the xy -plane here, but should still be able to give a good description of the surface.)

3. Find the arc length parametrization and curvature κ for the vector function $\vec{\mathbf{r}}(t) = \langle 3 \cos t, 3 \sin t, 4t \rangle$.