Math 240 Supplementary homework problem to Hw 6

Use traces (or cross sections) to sketch the following quadric surfaces and name the surface as well.

Show your work.

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

(b) $z = 4 - 2x^2 - y^2$

(c) $z = \sqrt{9 - 3x^2 - y^2}$

(d) $\dfrac{z^2}{9} - \dfrac{x^2}{4} - y^2 = 1$

(e) $z^2 = x^2 + y^2$ What about $z = \sqrt{x^2 + y^2}$?