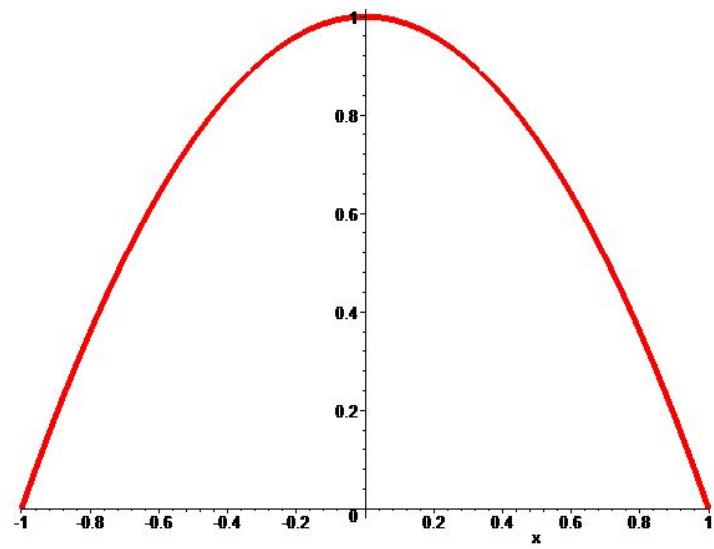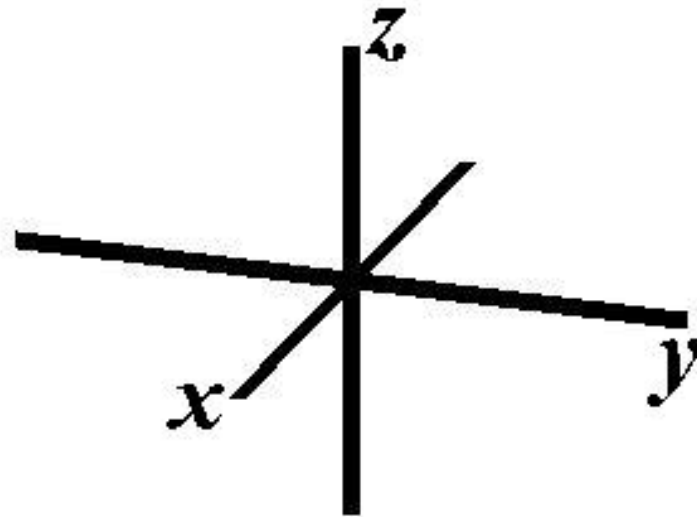$$y = 1 - x^2$$

$$y = 1 - x^2$$
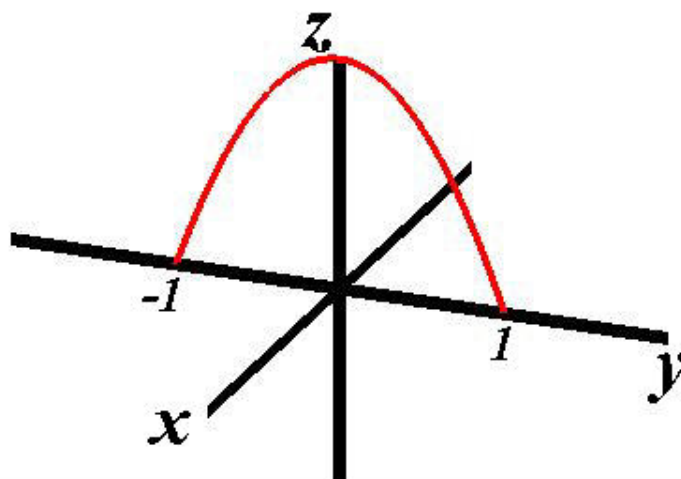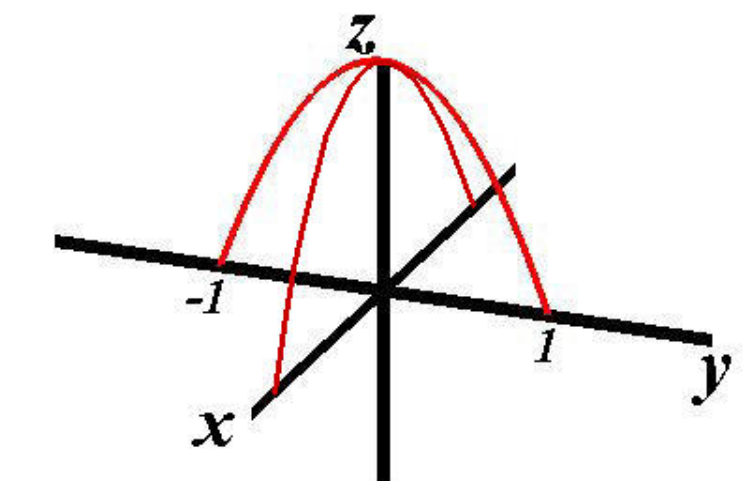
Graph the surface

$$z = 1 - x^2 - y^2$$

$$z = 1 - x^2 - y^2$$
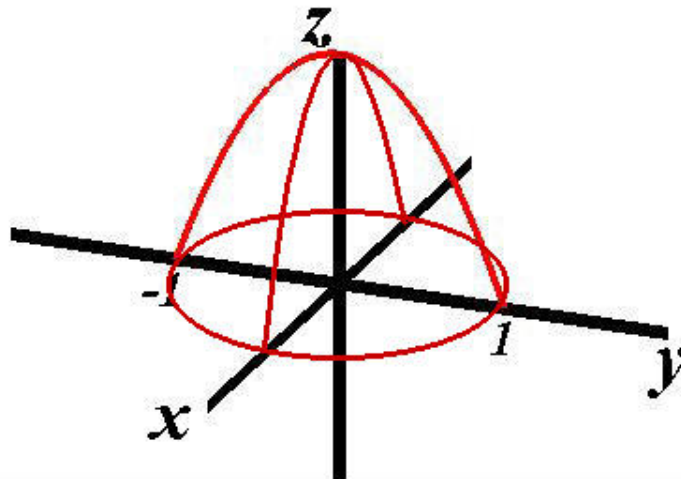
Start with $x = 0$ (the yz-plane) so $z = 1 - y^2$

$$z = 1 - x^2 - y^2$$
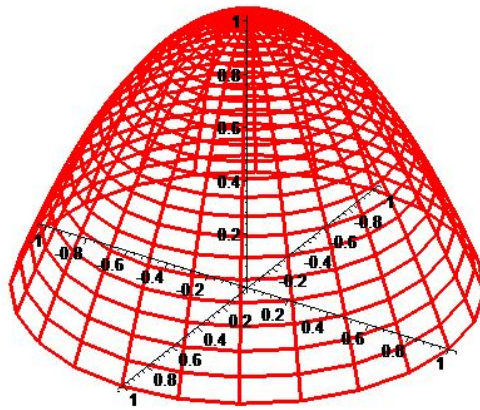
Next, try $y = 0$ (the xz-plane) so $z = 1 - x^2$

$$z = 1 - x^2 - y^2$$

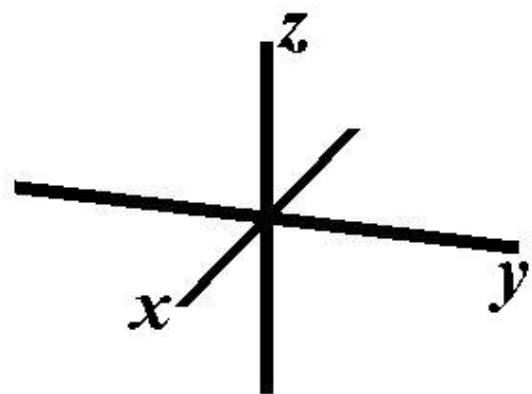Now try $z = 0$ (the xy-plane) so $x^2 + y^2 = 1$
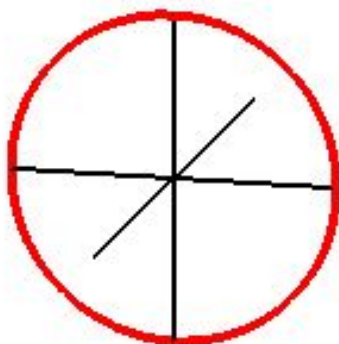
$$z = 1 - x^2 - y^2$$

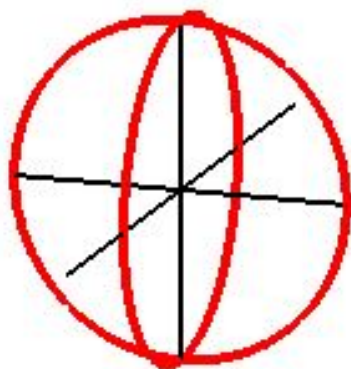$$x^2 + y^2 + z^2 = 1$$

Let's start in the yz plane

$$x^2 + y^2 + z^2 = 1$$

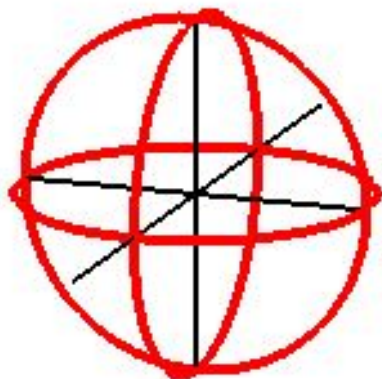Start in the yz plane: $x = 0$ and $y^2 + z^2 = 1$

$$x^2 + y^2 + z^2 = 1$$

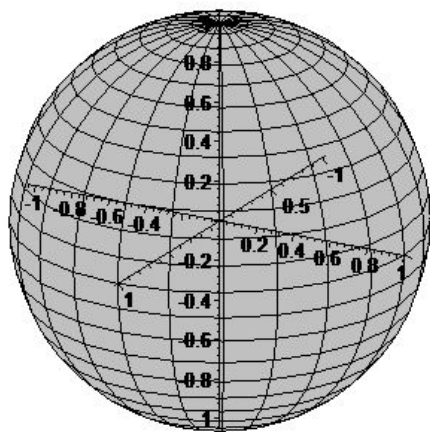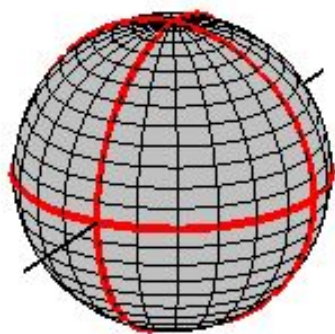In the xz plane, $y = 0$ and $x^2 + z^2 = 1$

$$x^2 + y^2 + z^2 = 1$$

In the xy plane, $z = 0$ and $x^2 + y^2 = 1$
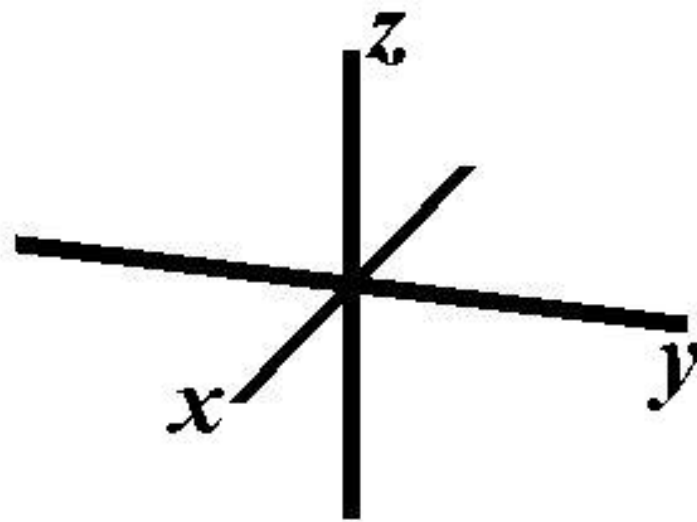
$$x^2 + y^2 + z^2 = 1$$
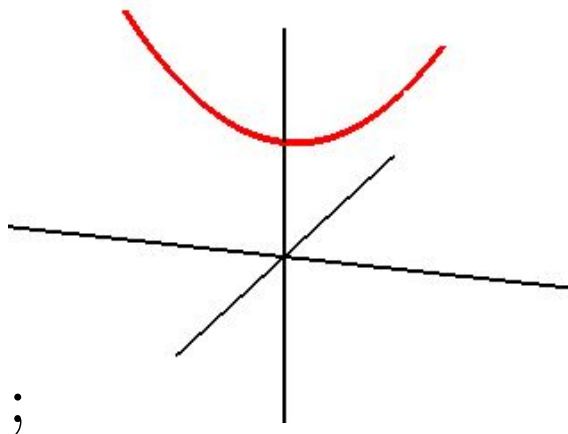
$$x^2 + y^2 + z^2 = 1$$
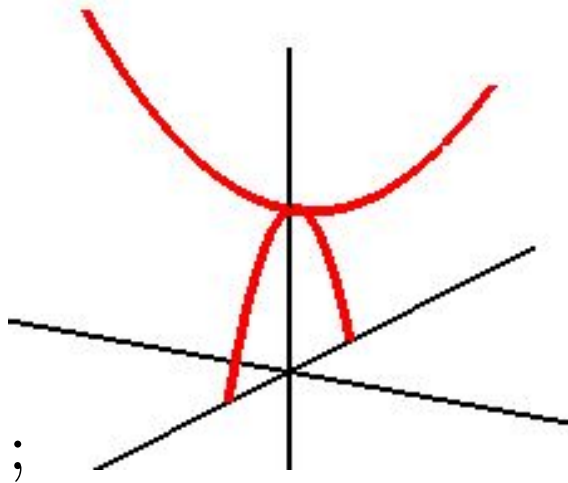
Graph the surface

$$z = 1 - x^2 + y^2$$

$$z = 1 - x^2 + y^2$$

Start in the yz plane: $x = 0$ and $z = 1 + y^2$
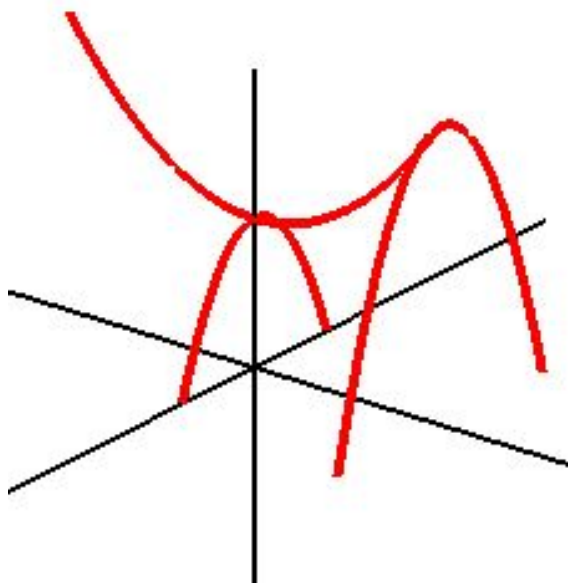

;

$$z = 1 - x^2 + y^2$$

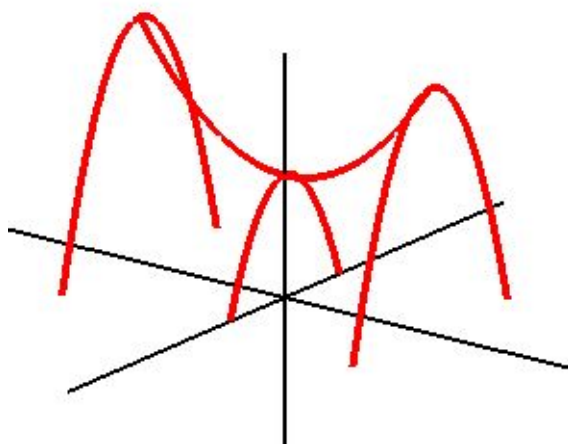Start in the xz plane: $y = 0$ and $z = 1 - x^2$

;

$$z = 1 - x^2 + y^2$$

Parallel the xz plane: $y = 1$ and $z = 2 - x^2$

$$z = 1 - x^2 + y^2$$

Other curves parallel the xz plane

$$z = 1 - x^2 + y^2$$