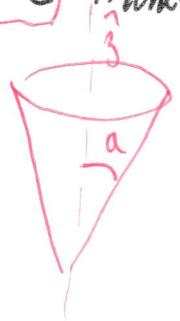
(iii) (a) $\theta = a$

?? A cone whose curved side makes an angle a to the z-axis.



(b) $\phi = a$

~~A~~ $\frac{1}{2}$ plane at an angle a from ~~the~~ x-axis.

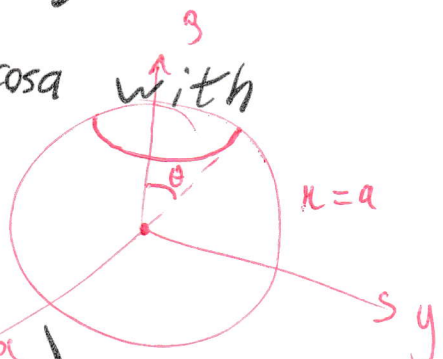
(c) $r = a$

A sphere of radius a. centre?

(d) $r = \theta = a$

$$\underset{\sim}{r} = (r\sin\theta\cos\phi,\ r\sin\theta\sin\phi,\ r\cos\theta)$$
$$= (a\sin a\cos\phi,\ a\sin a\sin\phi,\ a\cos a)$$

$\therefore$ A circle on the plane $z = a\cos a$ with radius $a^2\sin^2 a$. – draw



(e) $r = \theta = \phi$

$$\underset{\sim}{r} = (r\sin r\cos r,\ r\sin r\sin r,\ r\cos r)$$
$$= (\tfrac{1}{2}r\sin 2r,\ r\sin^2 r,\ r\cos r)$$

A 3d spiral. could you be more specific?