Set $N_{count} = 0$.
Set $a = 4\pi r^2/N$ and $d = \sqrt{a}$.
Set $M_\theta = round\,[\pi/d]$.
Set $d_\theta = \pi/M_\theta$ and $d_\phi = a/d_\theta$.
For each m in $0...M_{\theta-1}$ do {
    Set $\theta = \pi(m + 0.5)/M_\theta$.
    Set $M_\varphi = round\,[2\pi sin\theta/d_\varphi]$.
    For each n in $0 \ldots M_\varphi - 1$ do {
        Set $\varphi = 2\pi n/M_\varphi$.
        Create point using Eqn.(1)
        $N_{count} += 1$
    }
}

$$d \tag{1}$$