$$|t\rangle = \frac{1}{\sqrt{2}}(|z,+\rangle|z,-\rangle + |z,-\rangle|z,+\rangle)$$

$$\theta_{2*a)Writingitinthe} \pm \lambda$$

$$\theta_{\frac{2*a)Writingitinthe}{2}} \pm \rangle$$

$$|t\rangle_n = \frac{1}{\sqrt{2}} \left(\left[\cos(0) - \sin(0)\right] \left[\sin(0) + \cos(0)\right] + \left[\sin(0) + \cos(0)\right] \left[\cos(0) - \sin(0)\right] \right) = \left[\cos^2(0) - \sin^2(0)\right] \left[-\sin^2(0) + \cos^2(0)\right] + \left[\sin(0) + \cos(0)\right] + \left[\sin(0) + \cos(0)\right] \left[\cos(0) - \sin(0)\right] = \left[\cos^2(0) - \sin^2(0)\right] = \left[\cos^2(0) - \cos^2(0)\right] = \left[\cos^2(0) - \cos^2(0)$$