$p(\theta) = \dfrac{\sin\theta}{2}$.

(a)

range of $\theta \to [0, \pi]$, range of $\phi \to [0, 2\pi]$

$$\Rightarrow \int_0^{\pi} p(\theta)\, d\theta = \int_0^{\pi} \frac{\sin\theta}{2}\, d\theta$$

$$= \frac{1}{2}\left[-\cos\theta\right]_0^{\pi}$$

$$= 1 \qquad \text{(}p(\theta)\text{ is normalised)}$$

$\cancel{\int_0^{2\pi} p(\phi)\, d\phi} \, / \Rightarrow$

$$p(\phi) = \frac{1}{2\pi}$$

$$\int_0^{2\pi} p(\phi)\, d\phi = \int_0^{2\pi} \frac{1}{2\pi}\, d\phi = 1 \qquad \text{(}p(\phi)\text{ is normalised)}$$

So yes, $p(\theta)$ and $p(\phi)$ are normalised.

(b)

$$\int_0^{\theta(z)} p(\theta)\, d\theta = z \Rightarrow \int_0^{\theta(z)} \frac{\sin\theta}{2}\, d\theta = z \Rightarrow \frac{1}{2}\left[-\cos\theta\right]_0^{\theta(z)} = z$$

$$\Rightarrow \frac{1-\cos\theta}{2} = z$$

$$\Rightarrow \theta = \cos^{-1}(1 - 2z)$$