p. 114 # 3

$$\cos(z) = \sqrt{2}$$
$$\frac{1}{2}\left(e^{iz} + e^{-iz}\right) = \sqrt{2}$$
$$e^{iz} + e^{-iz} = 2\sqrt{2}$$
$$e^{2iz} + 1 = 2\sqrt{2}e^{iz}$$
$$e^{2iz} - 2\sqrt{2}e^{iz} + 1 = 0$$
$$\left(e^{iz} - \sqrt{2}\right)^2 - 1 = 0$$
$$e^{iz} - \sqrt{2} = \pm 1$$
$$e^{iz} = \sqrt{2} \pm 1$$
$$iz = \log(\sqrt{2} \pm 1) = \ln(\sqrt{2} \pm 1) + 2\pi i n$$
$$z = 2\pi n - i\ln(\sqrt{2} \pm 1)$$