Question #77325, Math , Calculus

1) $z_1 = 1 - i\sqrt{3}$

$|z_1| = \sqrt{1^2 + (-\sqrt{3})^2} = 2;$

$\cos\theta_1 = \dfrac{1}{2};$

$\sin\theta_1 = -\dfrac{\sqrt{3}}{2};$

$\theta_1 = \dfrac{5\pi}{3};$

$z_1 = 2(\cos\dfrac{5\pi}{3} + i\sin\dfrac{5\pi}{3}).$

2) $z_2 = -\sqrt{2} + i\sqrt{2}$

$|z_2| = \sqrt{(-\sqrt{2})^2 + (\sqrt{2})^2} = 2;$

$\cos\theta_2 = -\dfrac{\sqrt{2}}{2};$

$\sin\theta_2 = \dfrac{\sqrt{2}}{2};$

$\theta_2 = \dfrac{3\pi}{4};$

$z_2 = 2(\cos\dfrac{3\pi}{4} + i\sin\dfrac{3\pi}{4}).$