Given a complex number z find all of its indicated nth roots.

z	nth roots	roots in the trigonometric form
$\sqrt{3}+i$	4	$\sqrt[4]{2}\left[\cos\left(\frac{\pi}{24}+\frac{\pi k}{2}\right)+i\sin\left(\frac{\pi}{24}+\frac{\pi k}{2}\right)\right], k=0,1,2,3$
$-4+4\sqrt{3}i$	3	$2\left[\cos\left(\frac{2\pi}{9}+\frac{2\pi k}{3}\right)+i\sin\left(\frac{2\pi}{9}+\frac{2\pi k}{3}\right)\right], k=0,1,2$
$-32-32i$	6	$\sqrt[12]{2048}\left[\cos\left(\frac{5\pi}{24}+\frac{\pi k}{3}\right)+i\sin\left(\frac{5\pi}{24}+\frac{\pi k}{3}\right)\right], k=0,1,2,3,4,5$
$-i$	2	$\left[\cos\left(\frac{3\pi}{4}+k\pi\right)+i\sin\left(\frac{3\pi}{4}+k\pi\right)\right], k=0,1$
16	4	$2\left[\cos\left(\frac{\pi k}{2}\right)+i\sin\left(\frac{\pi k}{2}\right)\right], k=0,1,2,3$
$-64+64i$	3	$4\sqrt[6]{2}\left[\cos\left(\frac{\pi}{4}+\frac{2\pi k}{3}\right)+i\sin\left(\frac{\pi}{4}+\frac{2\pi k}{3}\right)\right], k=0,1,2$
$-81i$	6	$\sqrt[3]{9}\left[\cos\left(\frac{\pi}{4}+\frac{\pi k}{3}\right)+i\sin\left(\frac{\pi}{4}+\frac{\pi k}{3}\right)\right], k=0,1,2,3,4,5$