

Before starting this activity you will need the small, free program **zRootsII**, from www.charliewatson.com/classpad. Download and installation instructions are available on the same site.

Example: Determine the four roots of the complex number $-16i$.

Open the Program app, select the program named **zRootsII** and tap the play button.

Note the introductory screen, tap OK and proceed to set the z type – the form that the complex number is currently in. For this example, enter 1 and tap OK. Next enter 4, 0, -16 – we require the four roots of $0 - 16i$.

The next screen shows the given complex number in Cartesian and polar forms using the exact (Standard) display.

Tap the green play button to view the complex number using the approximate (Decimal) display, and then tap the same button again to select how you would like the roots displayed.

By entering 1 and tapping OK, the four roots are displayed in exact polar form in radians. The largest root is $2 \operatorname{cis} \frac{7\pi}{8}$.

You may want to display the roots graphically using option 7.

Options 10, 30 and 50 also display the roots using a pop-up 2D view window.

