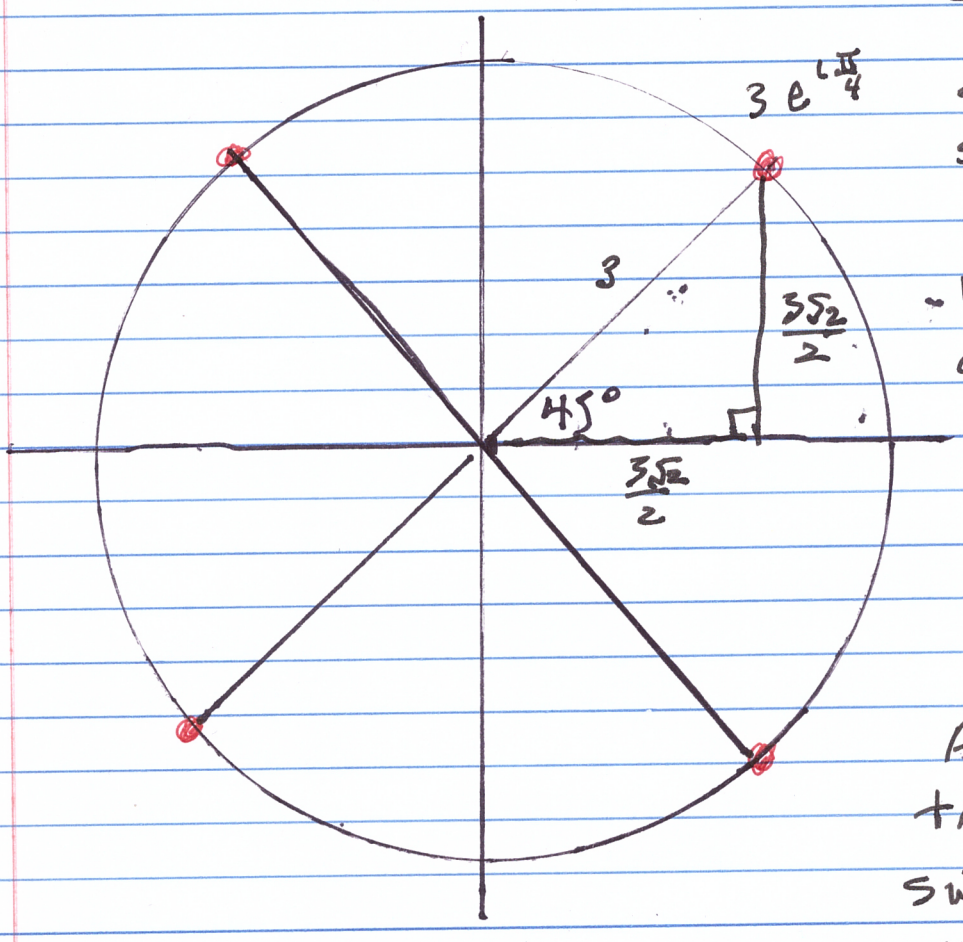
Example D

$z^4 = -3^4 = 3^4 e^{i\pi}$



Divide the circle into 4 equal steps. Each step is $\frac{\pi}{2}$ rads $= 90°$.

- We begin with a half-step $45°$

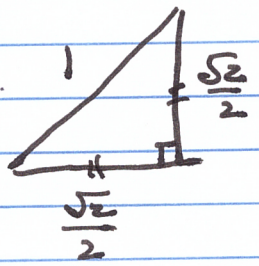
Move around a circle of radius 3

roots

$$\frac{3\sqrt{2}}{2} \pm \frac{3\sqrt{2}}{2} i$$

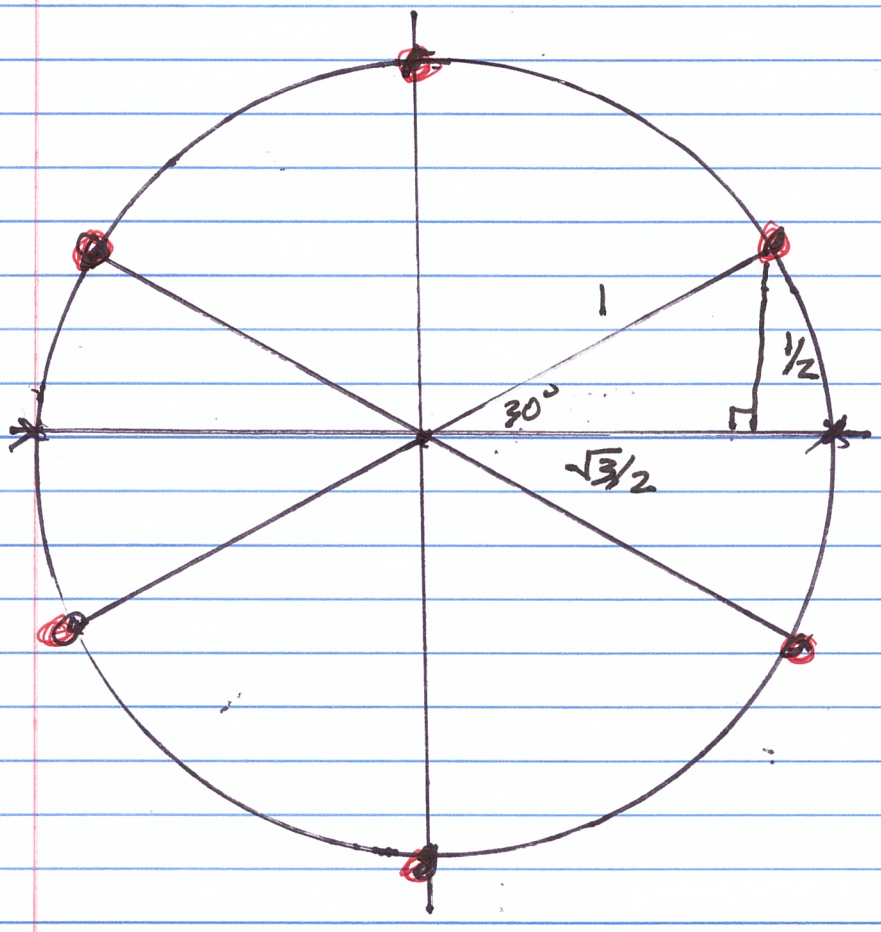
$$-\frac{3\sqrt{2}}{2} \pm \frac{3\sqrt{2}}{2} i$$

A 45-45-90 triangle is similar to one with sides



Example 4.2 / BD15, BD#11

$$R^6 = -1 = 1 \cdot e^{i\pi}$$



Divide the circle into 6 equal steps. Each step is $\frac{\pi}{3}$ rads $= 60^\circ$

We begin with a half-step 30°

Move around a circle of radius 1

roots are

$$\frac{\sqrt{3}}{2} \pm \frac{1}{2}i$$

$$\pm i$$

$$-\frac{\sqrt{3}}{2} \pm \frac{1}{2}i$$

A $30-60-90$ triangle is similar to one with side