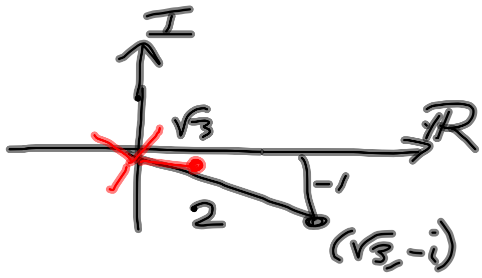
4^{th} roots

$$\sqrt[4]{r}\left(\cos\left(\frac{\theta+2\pi k}{4}\right)+i\sin\left(\frac{\theta+2\pi k}{4}\right)\right)$$

$k = 0, 1, 2, 3$

$z = \sqrt{3} - i$



$\sqrt{3} - i$

$r = 2$

$\theta = 330^\circ$ OR $\frac{11\pi}{6}$ Radians

OR -30° .. $-\frac{\pi}{6}$ Radians.

$$\sqrt[4]{2}\left(\cos\left(\boxed{-\frac{\pi}{24}}\right)+i\sin\left(-\frac{\pi}{24}\right)\right)$$

$$\sqrt[4]{2}\left(\cos\left(\frac{\pi}{3}\right)+i\sin\left(\frac{\pi}{3}\right)\right)$$

$$\sqrt[4]{2}\left(\cos\left(\frac{5\pi}{6}\right)+i\sin\left(\frac{5\pi}{6}\right)\right)$$

$$\sqrt[4]{2}\left(\cos\left(\frac{4\pi}{3}\right)+i\sin\left(\frac{4\pi}{3}\right)\right)$$

Idiot!

$\boxed{-\frac{\pi}{6}} + \frac{2\pi}{4} = -\frac{\pi}{6} + \frac{\pi}{2}$

$= \frac{-\pi+3\pi}{6} = \frac{2\pi}{6} = \frac{\pi}{3}$

$\frac{\pi}{3} + \frac{\pi}{2} = \frac{2\pi+3\pi}{6} = \frac{5\pi}{6}$

$\frac{5\pi}{6} + \frac{3\pi}{6} = \frac{8\pi}{6} = \frac{4\pi}{3}$

$\frac{4\pi}{3} + \frac{\pi}{2} = \frac{8\pi+3\pi}{6}$

$= \frac{11\pi}{6}$

$-\frac{\pi}{24} + \frac{\pi}{2} = \frac{-\pi+12\pi}{24} = \frac{11\pi}{24}$

1

2 $\frac{23\pi}{24}$

$\frac{2\pi}{4} = \frac{\pi}{2}$

3 $\frac{35\pi}{24}$

4 $\frac{47\pi}{24}$

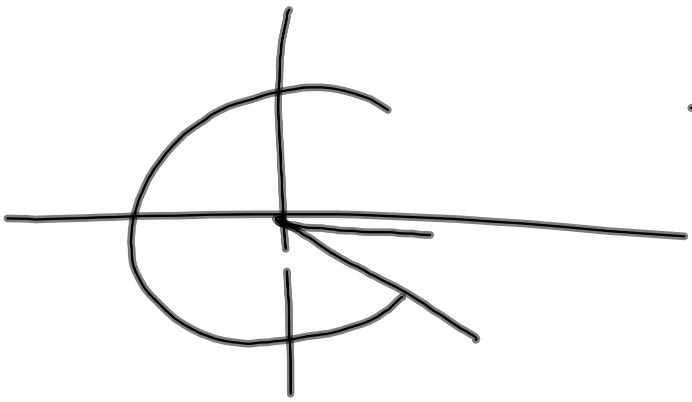
$\frac{\pi}{24}$ less than 2π. So it's our $-\frac{\pi}{24}$

$\frac{59}{24} = 2 + \frac{11\pi}{24}$

5 $\frac{59\pi}{24}$ Should bring us home?

$= 2\pi + \frac{11\pi}{24}$ puts us back at the

1^{st}



$$\frac{330^\circ}{4}$$

$$\frac{\frac{11\pi}{6}}{4} =$$

#12 Center, vertices, foci &

$x^2 - 9y^2 + 36y - 72 = 0$

$x^2 - 9(y^2 + 4y + 2^2) = 72 - 36$

$x^2 - 9(y+2)^2 = 36$

$\frac{x^2}{36} - \frac{(y+2)^2}{4} = 1$

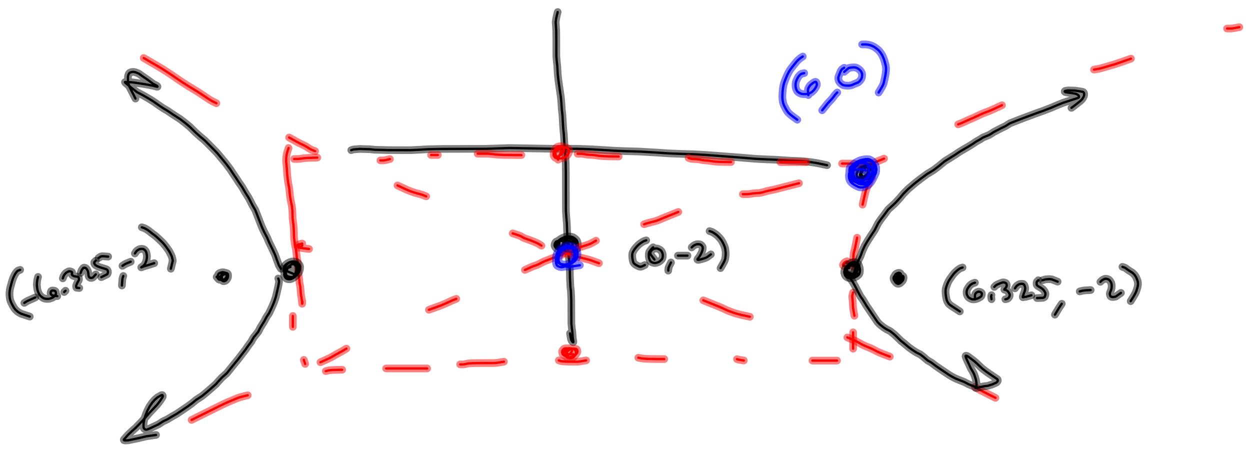
$c^2 = a^2 + b^2 = 40$

$c = 2\sqrt{10}$

$\sqrt{40}$

$= \sqrt{4 \cdot 10}$

$= 2\sqrt{10} \approx 6.325$



$m = \frac{0+2}{6-0} = \frac{2}{6} = \frac{1}{3}$

$y = \frac{1}{3}(x-0) + (-2) = \frac{1}{3}x - 2$

$y = -\frac{1}{3}(x-0) + (-2)$

Asympt $y = -\frac{1}{3}x - 2$

$y = \frac{1}{3}x - 2$

May 2-8:32 AM