Solve for z in either rectangular or polar form:

$$\frac{z-i}{2+i}=2$$

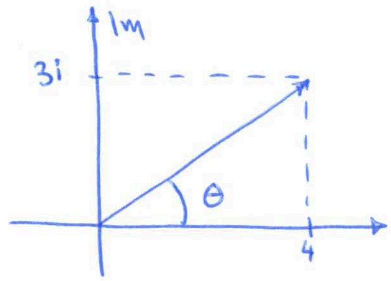
$$\frac{3z-i}{z+i}=2+i$$

$$\frac{3z - i}{3e^{\frac{\pi}{4}i}} = 2 + i$$

$$e^{\frac{\pi}{6}i}e^{i} = 2 + iz$$

Solve for z in either rectangular or polar form:

$$\frac{z-i}{2+i} = 2$$



$$\theta = \tan^{-1}\left(\frac{3}{4}\right) = 0.644$$

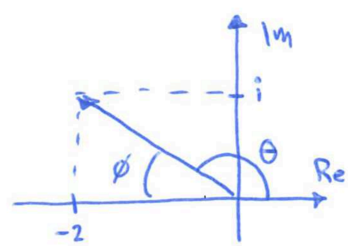
$$R = \sqrt{4^2+3^2} = 5$$

$$z - i = 2(2+i)$$

$$z = 4 + 2i + i$$

$$\boxed{z = 4 + 3i = 5e^{0.644i}}$$

$$\frac{3z-i}{z+i} = 2+i$$



$$\phi = \tan^{-1}\left(\frac{1}{2}\right) = 0.464$$

$$\theta = \pi - \phi = 2.68$$

$$R = \sqrt{(-2)^2 + 1^2} = \sqrt{5}$$

$$3z - i = (2+i)(z+i)$$

$$3z - i = 2z + 2i + zi + i^2$$

$$z - zi = 3i - 1$$

$$z(1-i) = -1 + 3i$$

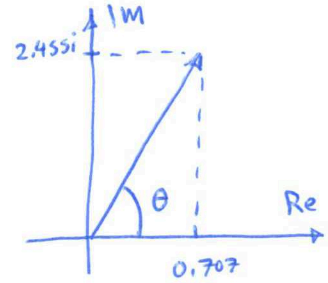
$$z = \left(\frac{-1+3i}{1-i}\right)\left(\frac{1+i}{1+i}\right)$$

$$= \frac{-1 - i + 3i + 3i^2}{1 + i - i - i^2}$$

$$= \frac{-4+2i}{2}$$

$$\boxed{\begin{aligned} z = -2 + i &= \sqrt{5}\, e^{2.68i} \\ &= 2.236\, e^{2.68i} \end{aligned}}$$

$$\frac{3z - i}{3e^{\frac{\pi}{4}i}} = 2 + i$$



$\theta = \tan^{-1}\left(\frac{2.455}{0.707}\right) = 1.29$

$R = \sqrt{0.707^2 + 2.455^2} = 2.55$

$3z - i = (2 + i)\, 3e^{\frac{\pi}{4}i}$

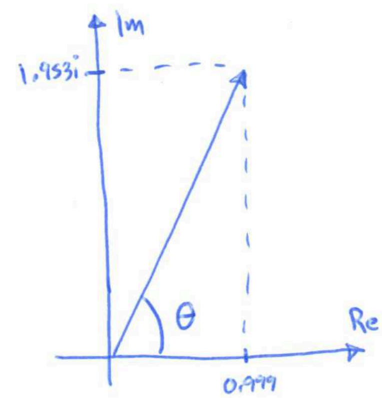
$3z - i = (2 + i)(2.121 + 2.121i)$

$3z - i = 4.243 + 4.243i + 2.121i + 2.121i^2$

$3z = 2.121 + 7.364i$

$$\boxed{z = 0.707 + 2.455i = 2.55\, e^{1.29i}}$$

$$e^{\frac{\pi}{6}i} e^{i} = 2 + iz$$



$\theta = \tan^{-1}\left(\frac{1.953}{0.999}\right) = 1.098$

$R = \sqrt{(0.999)^2 + (1.953)^2} = 2.194$

$2 + iz = e^{\left(\frac{\pi}{6} + 1\right)i} = 0.047 + 0.999i$

$z = \left(\frac{-1.953 + 0.999i}{i}\right)\left(\frac{-i}{-i}\right)$

$= \frac{1.953i - 0.999i^2}{-i^2}$

$$\boxed{\begin{aligned} &= 0.999 + 1.953i \\ &= 2.194\, e^{1.098i} \end{aligned}}$$