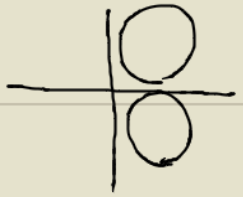
3. $\sqrt{7} - i$ $\quad x = \sqrt{7} \quad y = -1$



① FIND r ② FAILS ③ $\tan\theta = \frac{y}{x}$

$r = \sqrt{x^2 + y^2}$

$r = \sqrt{(\sqrt{7})^2 + (-1)^2}$

$r = \sqrt{7 + 1}$

$r = \sqrt{8}$

$r = \sqrt{2 \cdot 2 \cdot 2}$

$r = 2\sqrt{2}$

$\tan\theta = \frac{-1}{\sqrt{7}}$

$\tan^{-1}(\tan\theta) = \tan^{-1}\left(\frac{-1}{\sqrt{7}}\right)$

$\theta = \tan^{-1}\left(\frac{-1}{\sqrt{7}}\right)$

$\theta = -20.7°$

$+360°$

$\theta = 339.3°$

$r(\cos\theta + i\sin\theta)$

$2\sqrt{2}(\cos 339.3° + i \sin 339.3°)$

4. $5(\cos\pi + i\sin\pi)$

$= 5(-1 + i(0))$

$= -5$

5. $4\left(\cos\frac{\pi}{6} + i\sin\frac{\pi}{6}\right)$

$= 4\left(\frac{\sqrt{3}}{2} + i\left(\frac{1}{2}\right)\right)$

$= \frac{4\sqrt{3}}{2} + \frac{4}{2}i$

$= 2\sqrt{3} + 2i$

6. $7(\cos 22° + i\sin 22°)$

$= 6.49 + 2.62i$