(c)(i) cont. $4+9j = 9.849(\cos 66.04 + j\sin 66.04)$

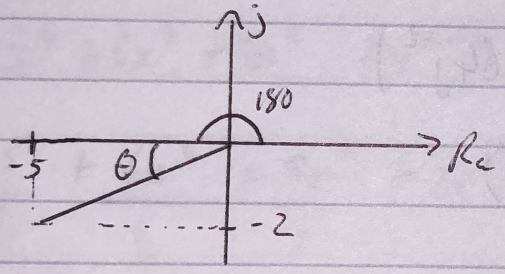
$[9.849(\cos 66.04 + j\sin 66.04)]^4$

$= 9409.5(\cos(4\times 66.04) + j\sin(4\times 66.04))$

$= 9409.5(\cos 264.16 + j\sin 264.16)$

$= -957.42 - 9360.7j$

(ii) $(-5-2j)^5$



$r = \sqrt{5^2+2^2}$

$r = \sqrt{29} = 5.385$

$\theta = \tan^{-1}\left(\frac{2}{5}\right) + 180 = 201.8$

$-5-2j = 5.385(\cos 201.8 + j\sin 201.8)$

$[5.385(\cos 201.8 + j\sin 201.8)]^5 = 4528.2(\cos 1009 + j\sin 1009)$

$= 1474.2 - 4281.5j$