3回目課題3

番号：　　名前：

令和元年10月23日(水)

1　次の直交座標で表された複素数を極座標$(re^{j\theta})$で示せ．(ただし，$-\pi < \theta \leq \pi$)とする．

例 $1+j\sqrt{3}=2e^{j\frac{\pi}{3}}$

(1) $4-j4=$

(2) $2\sqrt{3}+j2=$

(3) $-5-j5\sqrt{3}=$

(4) $j4=$

(5) $-j4=$

(6) $2\sqrt{3}=$

(7) $-2\sqrt{3}=$

(8) $2\sqrt{3}-j2=$

(9) $-3\sqrt{2}-j3\sqrt{2}=$

(10) $-5\sqrt{3}+j5=$

(11) $2+j2\sqrt{3}=$

(12) $-2\sqrt{3}+j2=$

(13) $-4-j4=$

(14) $3\sqrt{6}+j3\sqrt{2}=$

(15) $2\sqrt{5}-j2\sqrt{5}=$

(16) $-5\sqrt{2}+j5\sqrt{6}=$

(17) $-\sqrt{2}-j\sqrt{6}=$

(18) $-2\sqrt{15}+j2\sqrt{5}=$

(19) $\sqrt{8}-j\sqrt{24}=$

(20) $\sqrt{24}-j\sqrt{8}=$

[問題は裏に続く]

2　次の極座標で表された複素数を直交座標で示せ.

例 $2\mathrm{e}^{\mathrm{j}\frac{\pi}{3}} = 1 + \mathrm{j}\sqrt{3}$

(1) $5\mathrm{e}^{\mathrm{j}\frac{\pi}{6}} =$

(2) $4\mathrm{e}^{-\mathrm{j}\frac{2\pi}{3}} =$

(3) $2\mathrm{e}^{\mathrm{j}\frac{\pi}{2}} =$

(4) $2\mathrm{e}^{-\mathrm{j}\frac{\pi}{2}} =$

(5) $4\mathrm{e}^{-\mathrm{j}\pi} =$

(6) $5\mathrm{e}^{\mathrm{j}\frac{4\pi}{3}} =$

(7) $5\mathrm{e}^{-\mathrm{j}\frac{4\pi}{3}} =$

(8) $\sqrt{2}\mathrm{e}^{-\mathrm{j}\frac{\pi}{2}} =$

(9) $\sqrt{2}\mathrm{e}^{-\mathrm{j}\frac{3\pi}{2}} =$

(10) $\sqrt{3}\mathrm{e}^{-\mathrm{j}\frac{3\pi}{4}} =$

(11) $2\mathrm{e}^{\mathrm{j}\frac{5\pi}{4}} =$

(12) $10\mathrm{e}^{\mathrm{j}\frac{5\pi}{3}} =$

(13) $\sqrt{2}\mathrm{e}^{-\mathrm{j}\frac{5\pi}{6}} =$

(14) $\sqrt{6}\mathrm{e}^{-\mathrm{j}\frac{\pi}{4}} =$

(15) $2\mathrm{e}^{-\mathrm{j}\pi} =$

(16) $5\mathrm{e}^{\mathrm{j}\frac{\pi}{2}} =$

(17) $5\mathrm{e}^{-\mathrm{j}\frac{\pi}{2}} =$

(18) $5\mathrm{e}^{\mathrm{j}\frac{3\pi}{2}} =$

(19) $\sqrt{8}\mathrm{e}^{\mathrm{j}\frac{4\pi}{3}} =$

(20) $\sqrt{8}\mathrm{e}^{-\mathrm{j}\frac{7\pi}{4}} =$

[問題は以上です, しっかり見直しを]