

# 4回目課題4

番号：                      名前：

令和元年10月29日(火)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[問題は以上です, しっかり見直しを]