

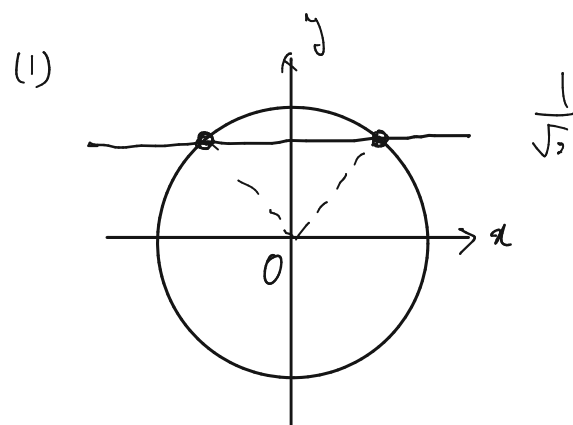
3-5 単位円と方程式

1 $0^\circ \leq \theta \leq 180^\circ$ のとき、次の等式を満たす θ を求めよ。

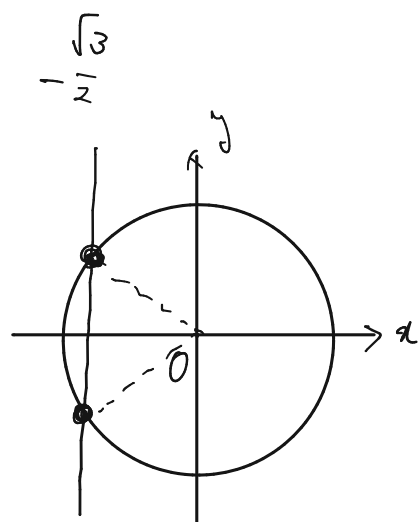
(1) $\sin \theta = \frac{1}{\sqrt{2}}$

(2) $\cos \theta = -\frac{\sqrt{3}}{2}$

(3) $\tan \theta = -1$



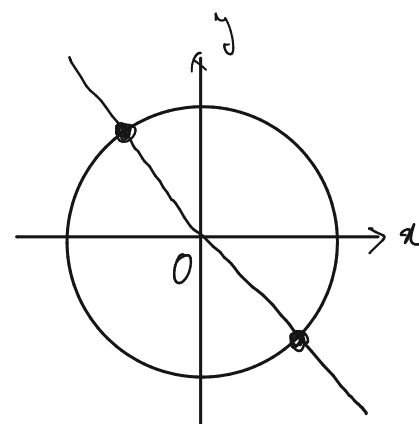
$\theta = 45^\circ, 135^\circ$



$\theta = 150^\circ$

$0^\circ \leq \theta \leq 360^\circ$ ならば

$\theta = 150^\circ, 210^\circ$



$\theta = 135^\circ$

$0^\circ \leq \theta \leq 360^\circ$ ならば

$\theta = 135^\circ, 315^\circ$

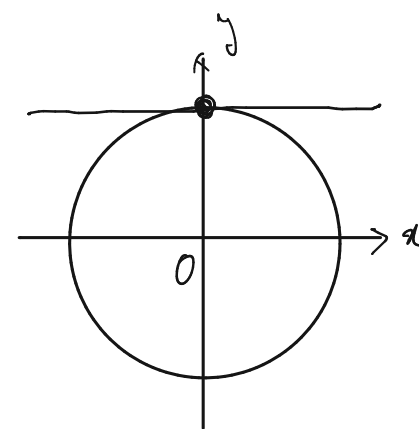
他は -

2 $0^\circ \leq \theta \leq 180^\circ$ のとき、次の等式を満たす θ を求めよ。

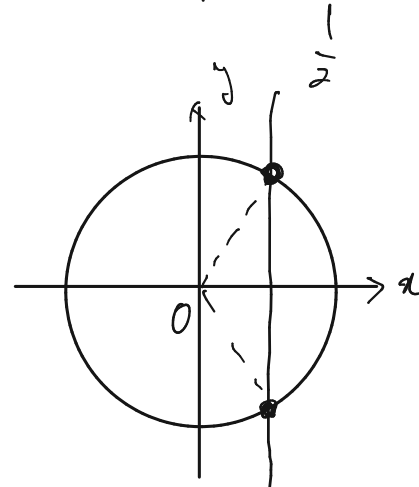
(1) $\sin \theta = 1$

(2) $2\cos \theta - 1 = 0$

(3) $3\tan \theta = \sqrt{3}$



$\theta = 90^\circ$

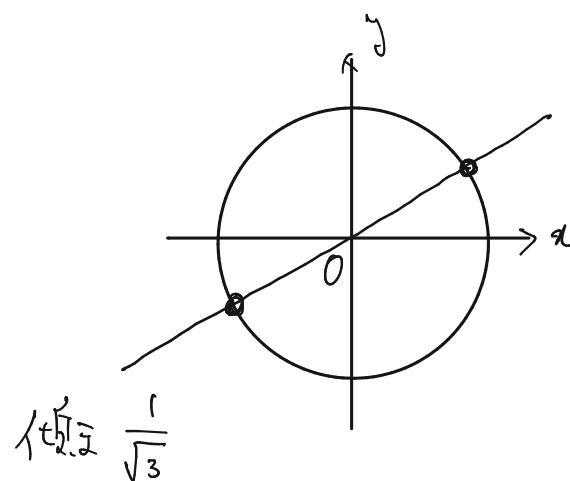


$2\cos \theta = 1$
 $\cos \theta = \frac{1}{2}$

$\theta = 60^\circ$

$0^\circ \leq \theta \leq 360^\circ$ ならば

$\theta = 60^\circ, 300^\circ$



$3\tan \theta = \sqrt{3}$

$\tan \theta = \frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$

$\theta = 30^\circ$

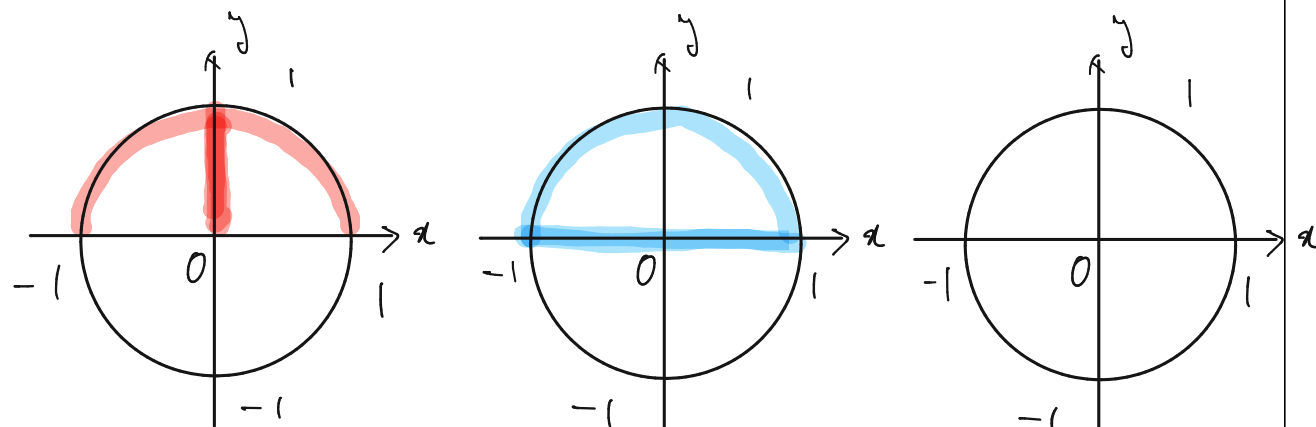
$0^\circ \leq \theta \leq 360^\circ$ ならば

$\theta = 30^\circ, 210^\circ$

3 - 5 単位円と方程式

3 次式のとりうる値の範囲を求めよ。(1) ~ (4) では $0^\circ \leq \theta \leq 180^\circ$ とする。

- (1) $\sin \theta + 2$ (2) $2\cos \theta$ (3) $2\sin \theta - 1$ (4) $-3\cos \theta + 1$
(5) $2\tan \theta + 1$ ($0^\circ \leq \theta \leq 60^\circ$) (6) $\sqrt{3}\tan \theta - 3$ ($30^\circ \leq \theta < 60^\circ$)



$$0 \leq \sin \theta \leq 1$$

$$-1 \leq \cos \theta \leq 1$$

$\tan \theta$ は θ の値で変化する
 $\Rightarrow \theta$ の範囲を
大々!!

(1) $0 \leq \sin \theta \leq 1$ より

$$2 \leq \sin \theta + 2 \leq 3$$

(4) $-1 \leq \cos \theta \leq 1$ より

$$-3 \leq -3\cos \theta \leq 3$$

(2) $-1 \leq \cos \theta \leq 1$ より

$$-2 \leq 2\cos \theta \leq 2$$

(3) $0 \leq \sin \theta \leq 1$ より

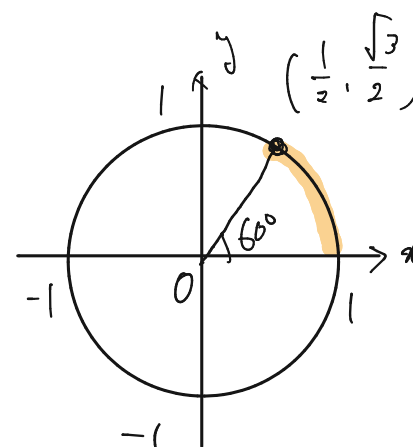
$$0 \leq 2\sin \theta \leq 2$$

$$-1 \leq 2\sin \theta - 1 \leq 1$$

$$-2 \leq -3\cos \theta + 1 \leq 4$$

4 $< +\alpha >$ 追加問題

(5)



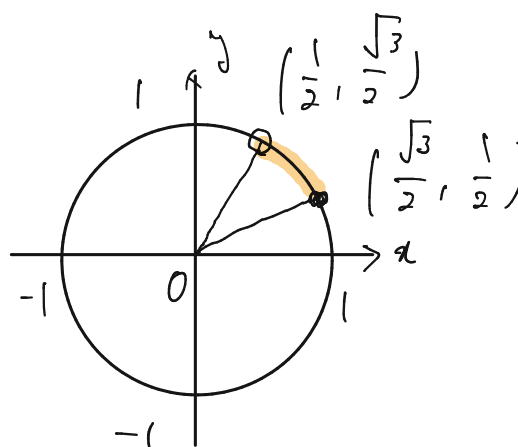
$$0^\circ \leq \theta \leq 60^\circ \text{ あり}$$

$$0 \leq \tan \theta \leq \sqrt{3}$$

$$0 \leq 2\tan \theta \leq 2\sqrt{3}$$

$$1 \leq 2\tan \theta + 1 \leq 2\sqrt{3} + 1$$

(6)



$$30^\circ \leq \theta < 60^\circ \text{ あり}$$

$$\frac{1}{\sqrt{3}} \leq \tan \theta < \sqrt{3}$$

$$1 \leq \sqrt{3}\tan \theta < 3$$

$$-2 \leq \sqrt{3}\tan \theta - 3 < 0$$

<今日のふりかえり>