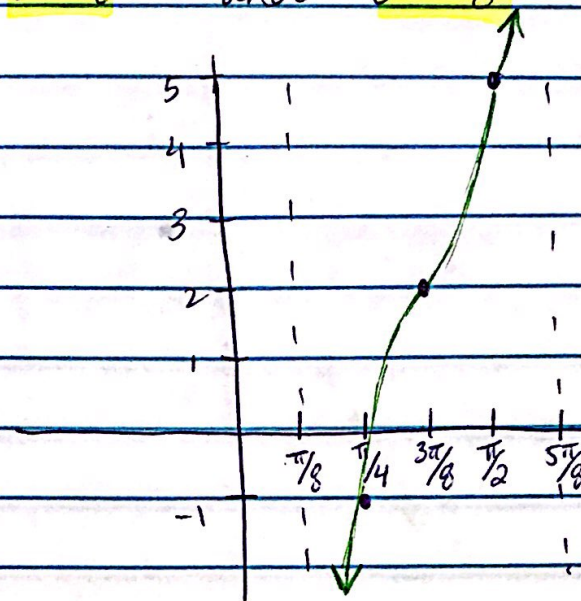


$$① y = 2 + 3 \tan\left(2\theta - \frac{3\pi}{4}\right)$$

Per: $\frac{\pi}{2}$ Asy: $2\theta - \frac{3\pi}{4} = -\frac{\pi}{2}$ and $2\theta - \frac{3\pi}{4} = \frac{\pi}{2}$
 $\theta = \frac{\pi}{8}$ and $\theta = \frac{5\pi}{8}$

θ	$f(\theta)$
$\frac{\pi}{8}$	undefined
$\frac{\pi}{4}$	-1
$\frac{3\pi}{8}$	2
$\frac{\pi}{2}$	5
$\frac{5\pi}{8}$	undefined

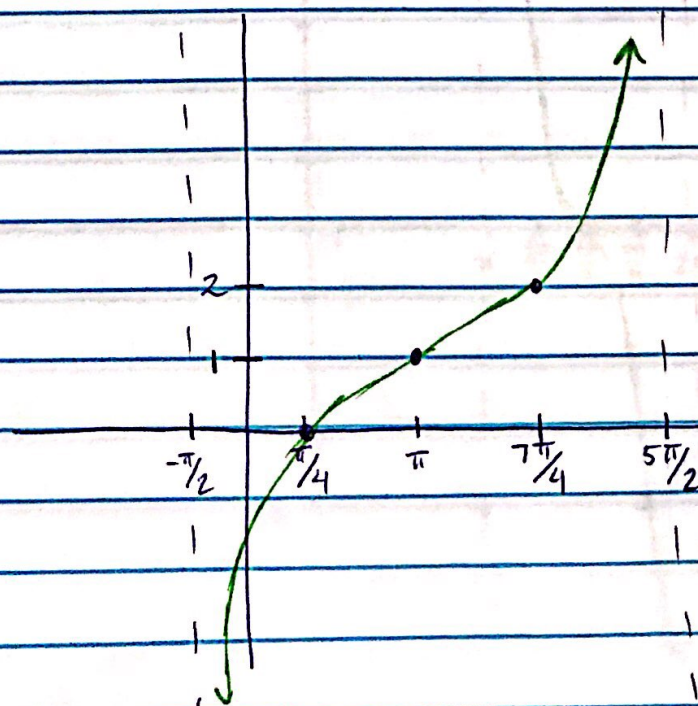


D: $x \neq \frac{\pi}{8} \pm \frac{\pi}{2}n$
R: \mathbb{R}

$$② y = -\cot\left(\frac{x}{3} + \frac{\pi}{6}\right) + 1$$

Per: $\frac{\pi}{1/3} = 3\pi$ Asy: $\frac{x}{3} + \frac{\pi}{6} = 0$ and $\frac{x}{3} + \frac{\pi}{6} = \pi$
 $x = -\frac{\pi}{2}$ and $x = \frac{5\pi}{2}$

x	y
$-\frac{\pi}{2}$	und
$\frac{\pi}{4}$	0
π	1
$\frac{7\pi}{4}$	2
$\frac{5\pi}{2}$	und



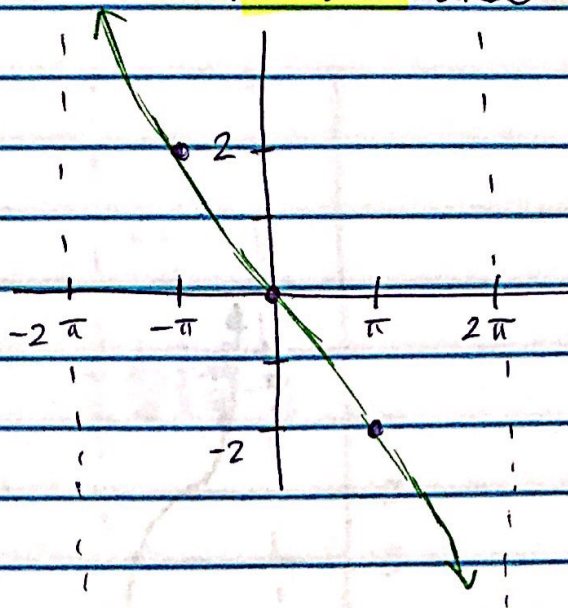
D: $x \neq \frac{\pi}{4} \pm 3\pi n$
R: \mathbb{R}

③ $f(x) = -2 \tan\left(\frac{x}{4}\right)$

Per: $\frac{\pi}{4} = 4\pi$

Asy: $\frac{x}{4} = -\frac{\pi}{2}$ and $\frac{x}{4} = \frac{\pi}{2}$
 $x = -2\pi$ and $x = 2\pi$

x	f(x)
-2π	und
$-\pi$	2
0	0
π	-2
2π	und



D: $x \neq -2\pi \pm 4\pi n$

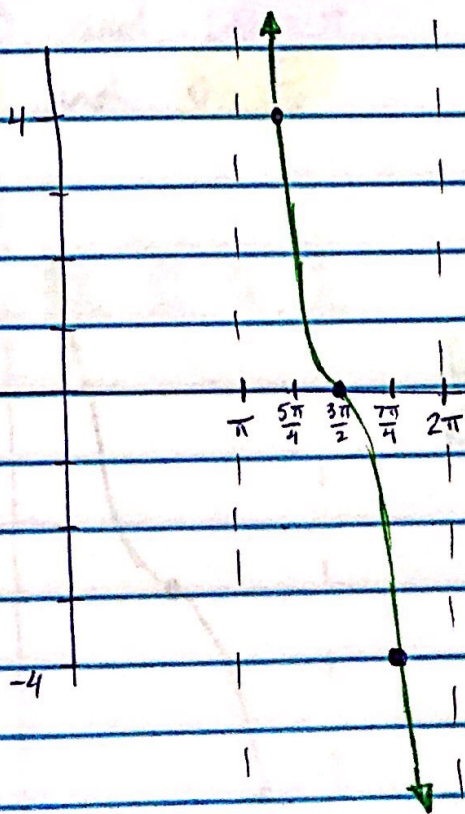
R: \mathbb{R}

④ $y = 4 \cot(\theta - \pi)$

Per: π

Asy: $\theta - \pi = 0$ and $\theta - \pi = \pi$
 $\theta = \pi$ and $\theta = 2\pi$

θ	y
π	und
$\frac{5\pi}{4}$	4
$\frac{3\pi}{2}$	0
$\frac{7\pi}{4}$	-4
2π	und



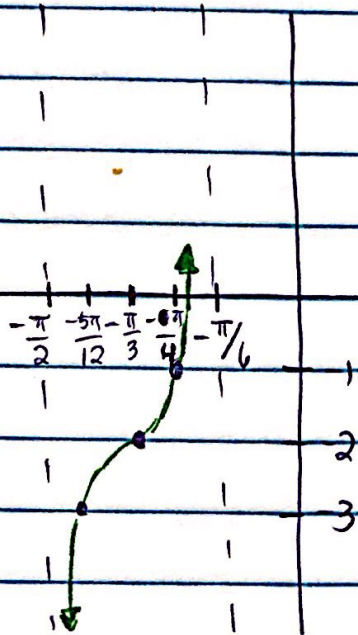
D: $x \neq \pi \pm \pi n$

R: \mathbb{R}

⑤ $f(\theta) = \tan(3\theta + \pi) - 2$

Per: $\frac{\pi}{3}$ Asy: $3\theta + \pi = -\frac{\pi}{2}$ and $3\theta + \pi = \frac{\pi}{2}$
 $\theta = -\frac{\pi}{6}$ and $\theta = -\frac{\pi}{6}$

θ	$f(\theta)$
$-\frac{\pi}{2}$	und
$-\frac{5\pi}{12}$	-3
$-\frac{\pi}{3}$	-2
$-\frac{\pi}{4}$	-1
$-\frac{\pi}{6}$	und

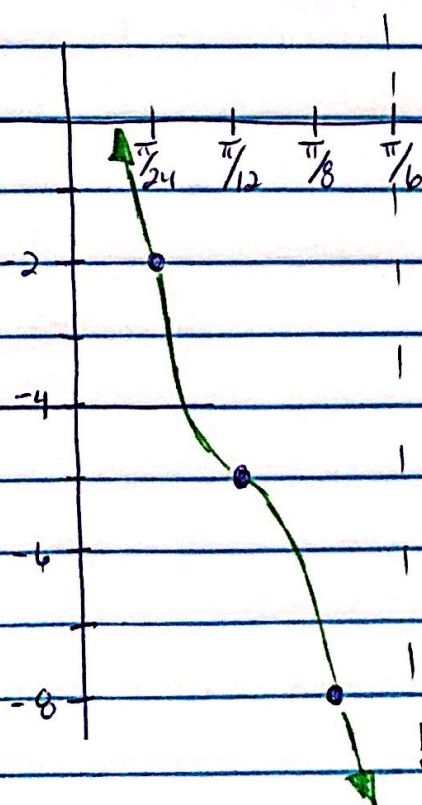


$D: -\frac{\pi}{2} \pm \frac{\pi}{3}n$
 $R: \mathbb{R}$

⑥ $y = 3 \cot(6\theta) - 5$

Per: $\frac{\pi}{6}$ Asy: $6\theta = 0$ and $6\theta = \pi$
 $\theta = 0$ and $\theta = \frac{\pi}{6}$

θ	y
0	und
$\frac{\pi}{24}$	-2
$\frac{\pi}{12}$	-5
$\frac{\pi}{8}$	-8
$\frac{\pi}{6}$	und



$D: 0 \pm \frac{\pi}{6}n$
 $R: \mathbb{R}$