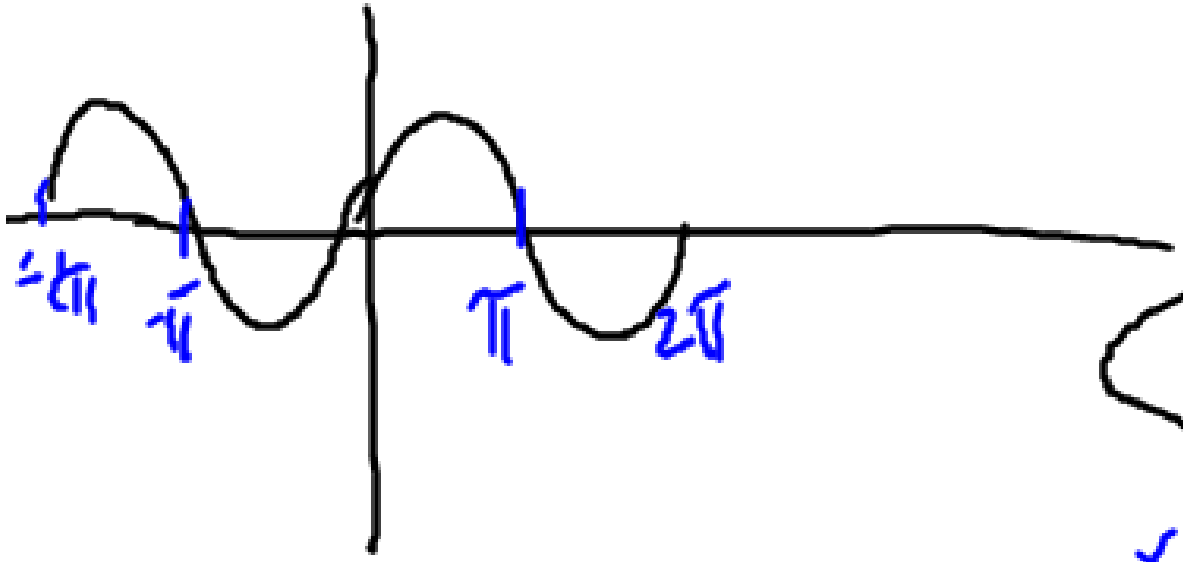
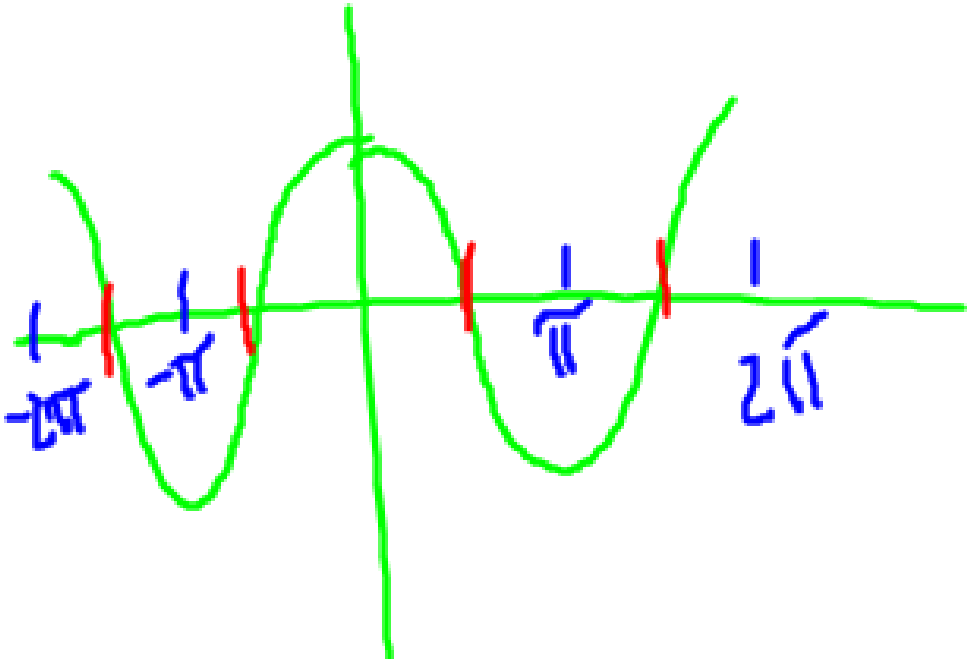
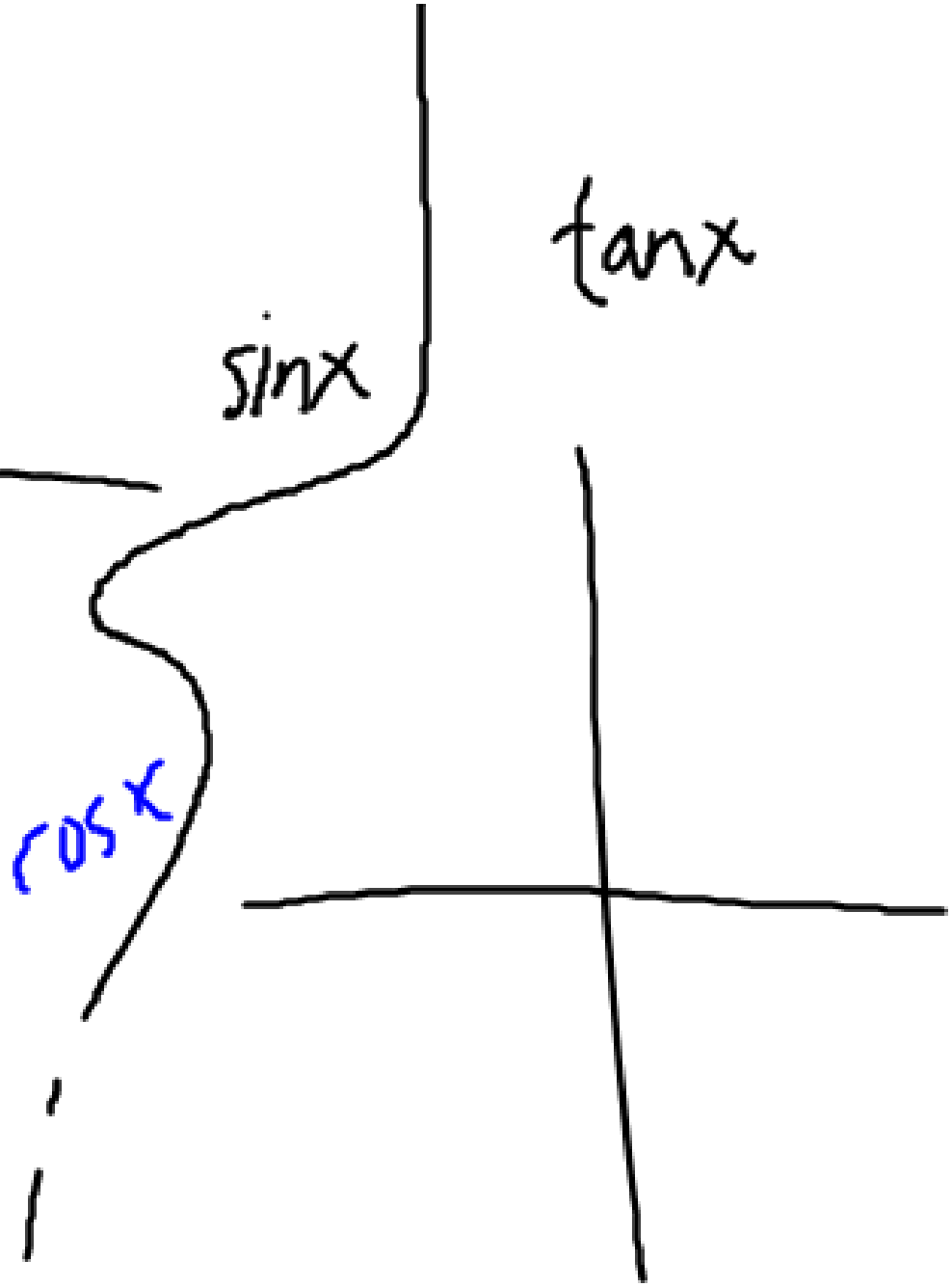
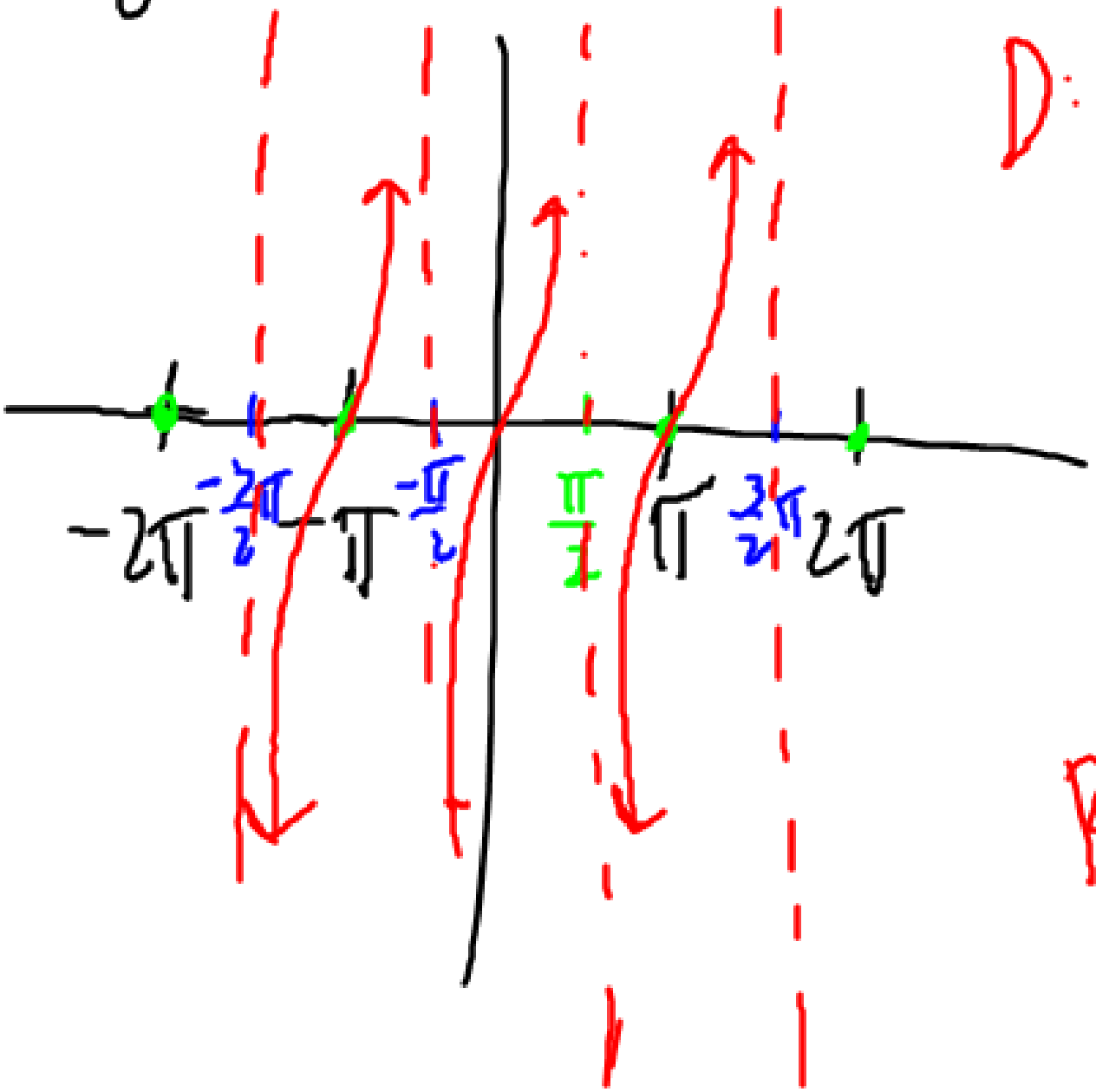
$$\tan x = \frac{\sin x}{\cos x}$$







$y = \tan x$



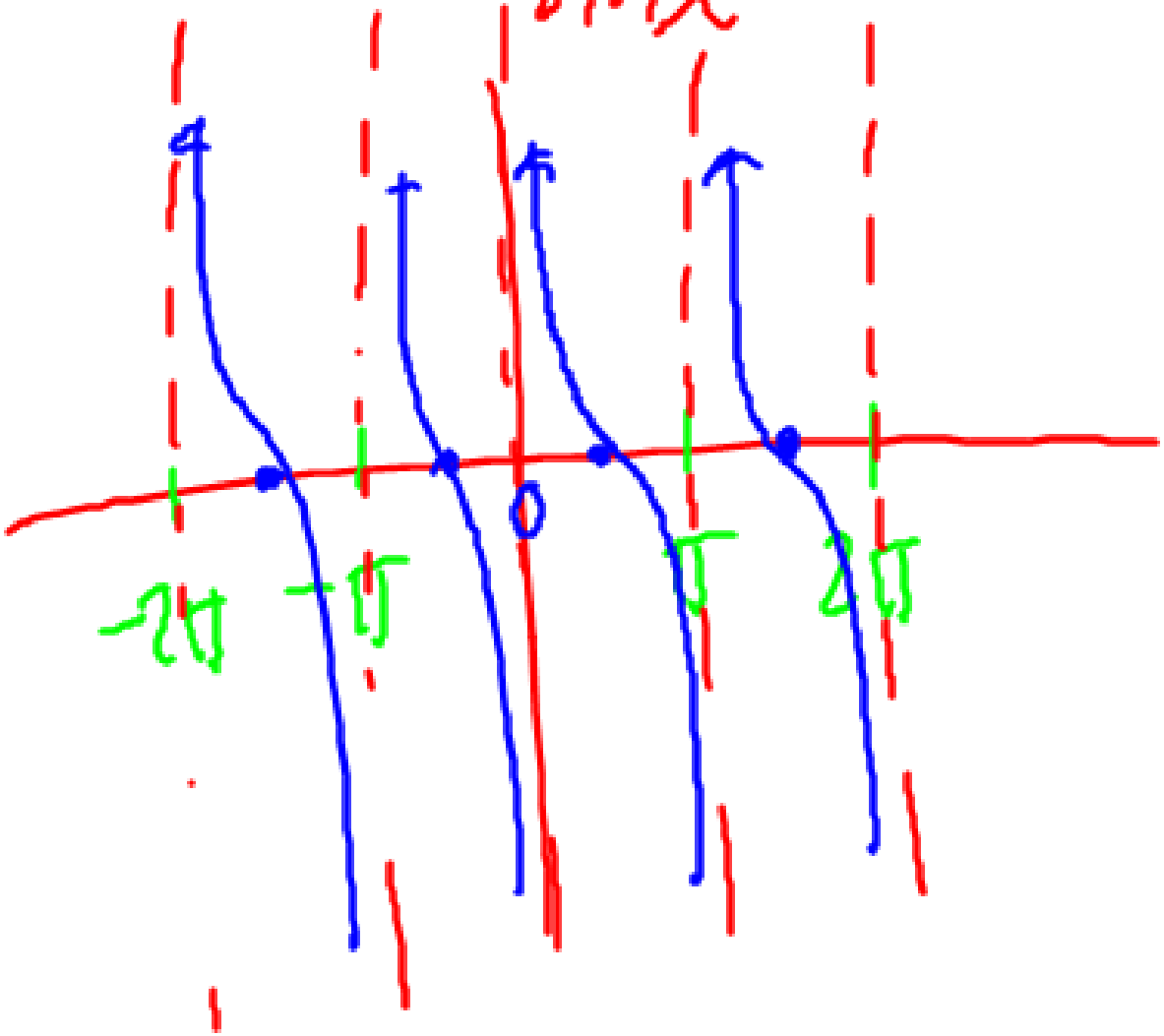
$P = \pi$

D: all reals except $K \cdot \frac{\pi}{2}$ where K is an odd integer

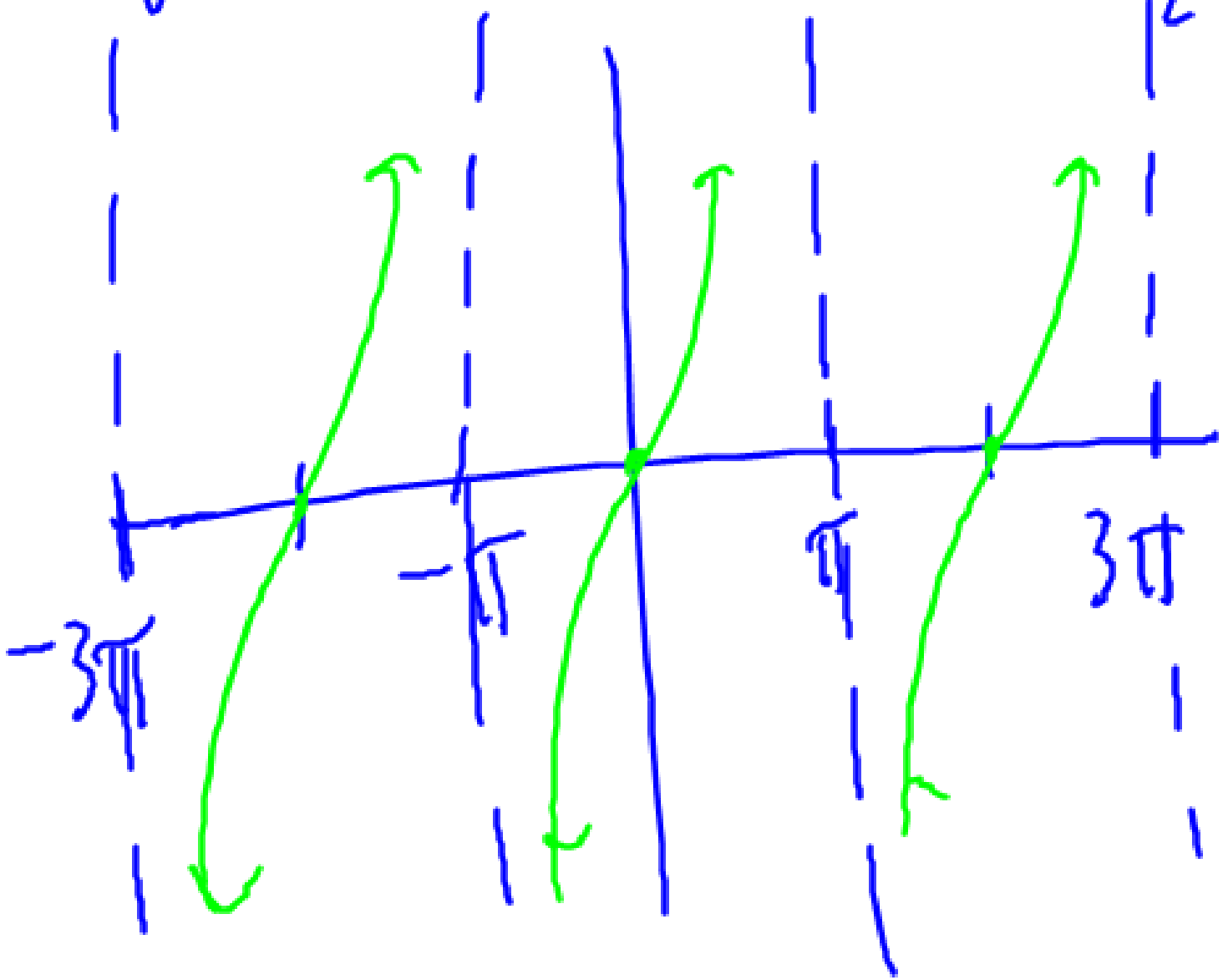
R: all reals $(-\infty, \infty)$

$y = \cot = \dfrac{\cos x}{\sin x}$

D: all reals except $K\pi$ where is an integer



③ $y = 3\tan\frac{1x}{2}$ $\quad P = \frac{\pi}{\frac{1}{2}} = 2\pi$



④ Solve

$\sec x = 2 \qquad \pi < x < 2\pi$

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

$x = 300^\circ = \frac{5}{3}\pi$

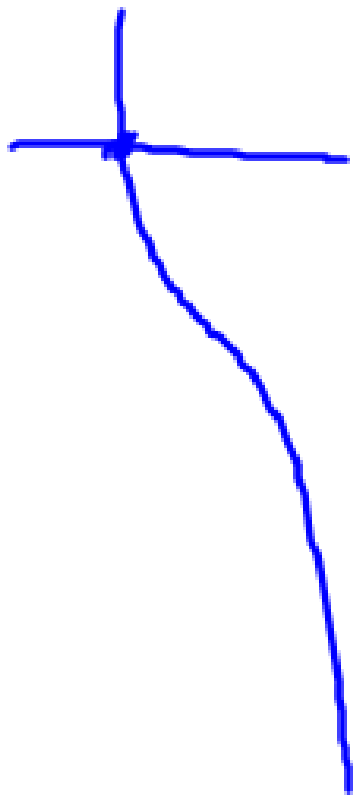
5

$\cot x = 3.5$ $\quad 0 < x < \frac{\pi}{2}$

y_1 $\qquad y_2 = 3.5$

$y_1 = \frac{1}{\tan x}$

intersect

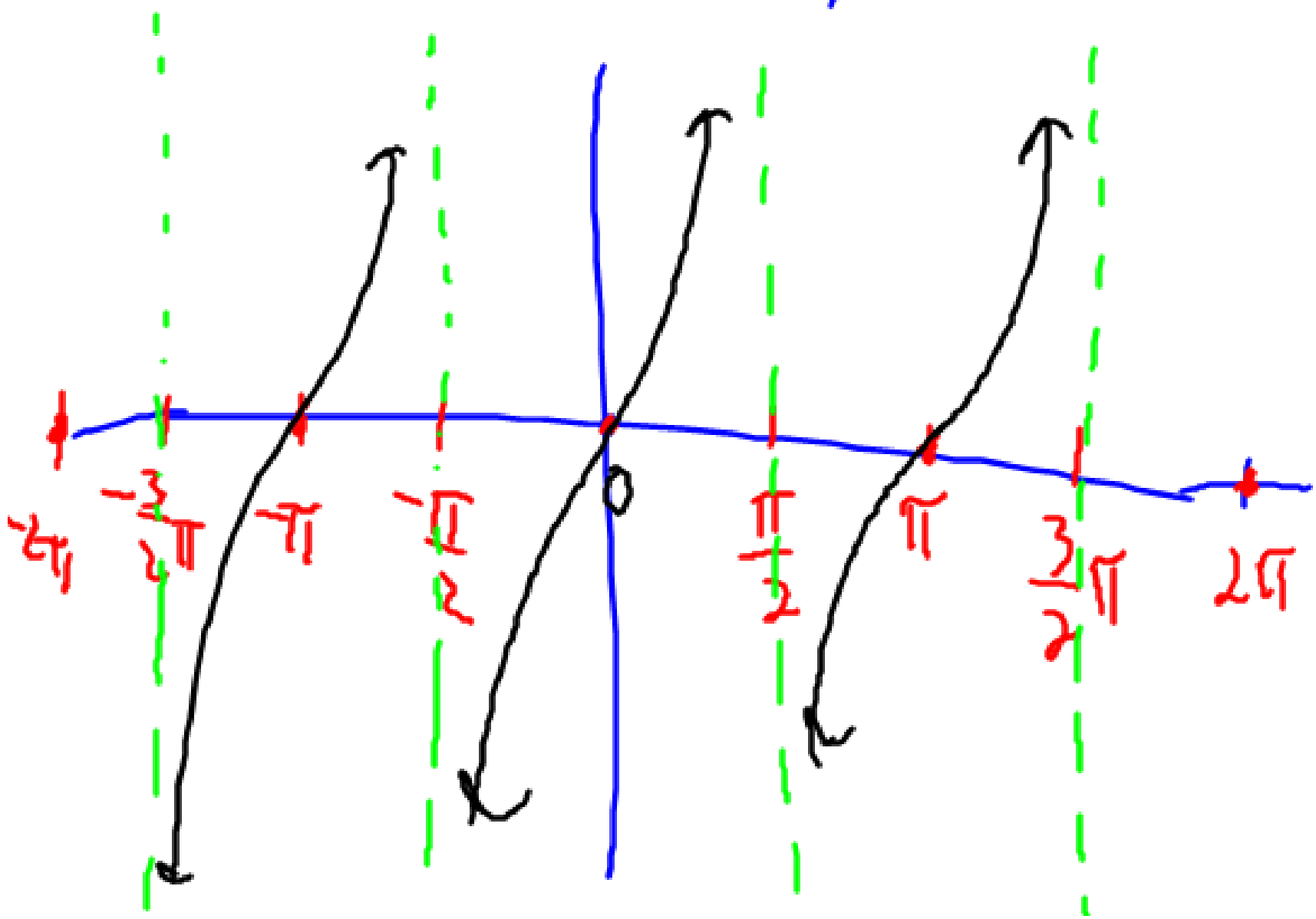


5 $\cot x = 3.5 \qquad 0 < x < \frac{\pi}{2}$

$y_1 = \frac{1}{\tan x} \qquad y_2 = 3.5$

$x \approx 0.28$

$$y = \tan x = \frac{\sin x}{\cos x}$$



$P = \pi$

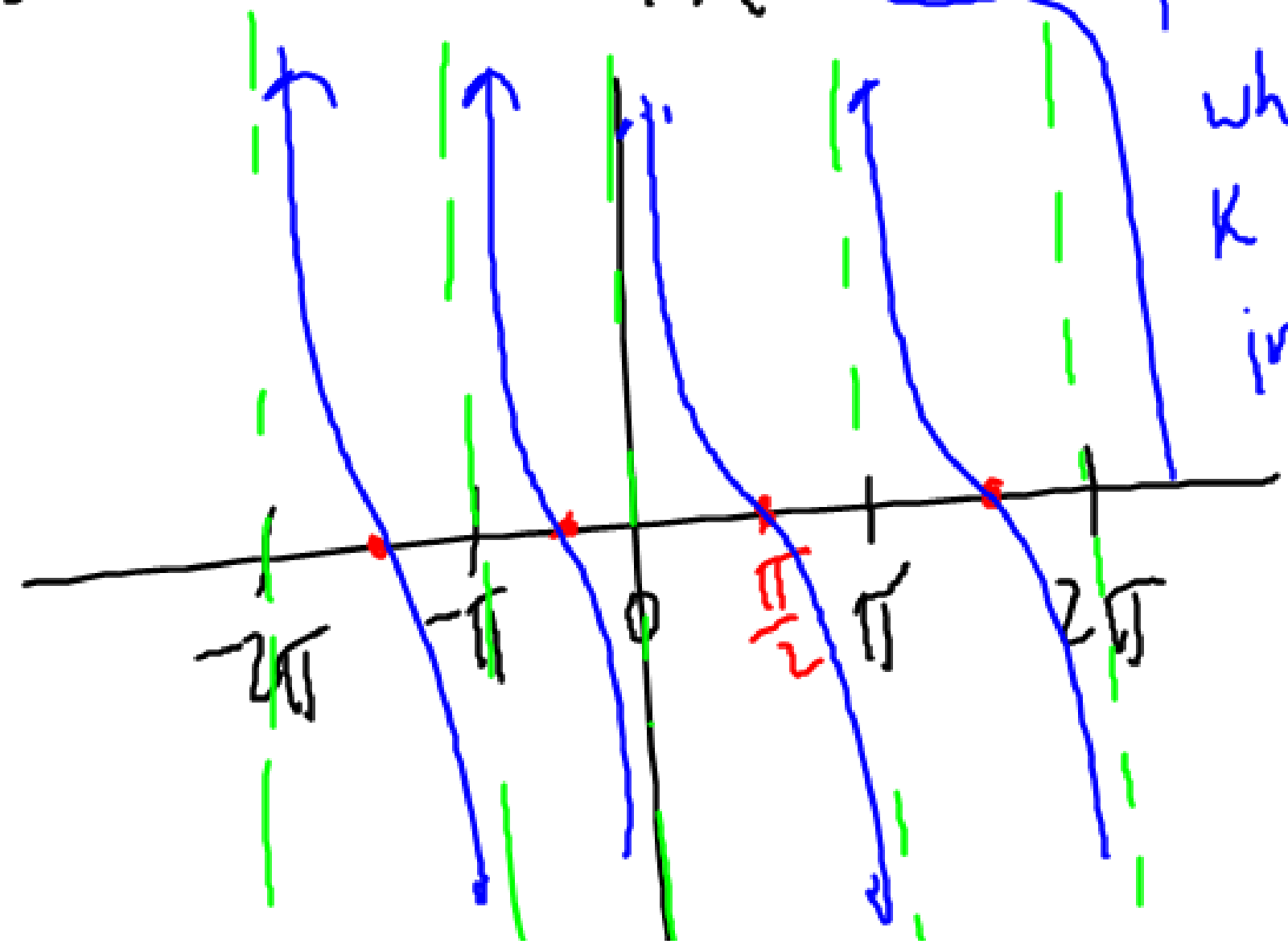
D: $(-\infty, \infty)$ except $K \cdot \frac{\pi}{2}$

where K is an odd integer

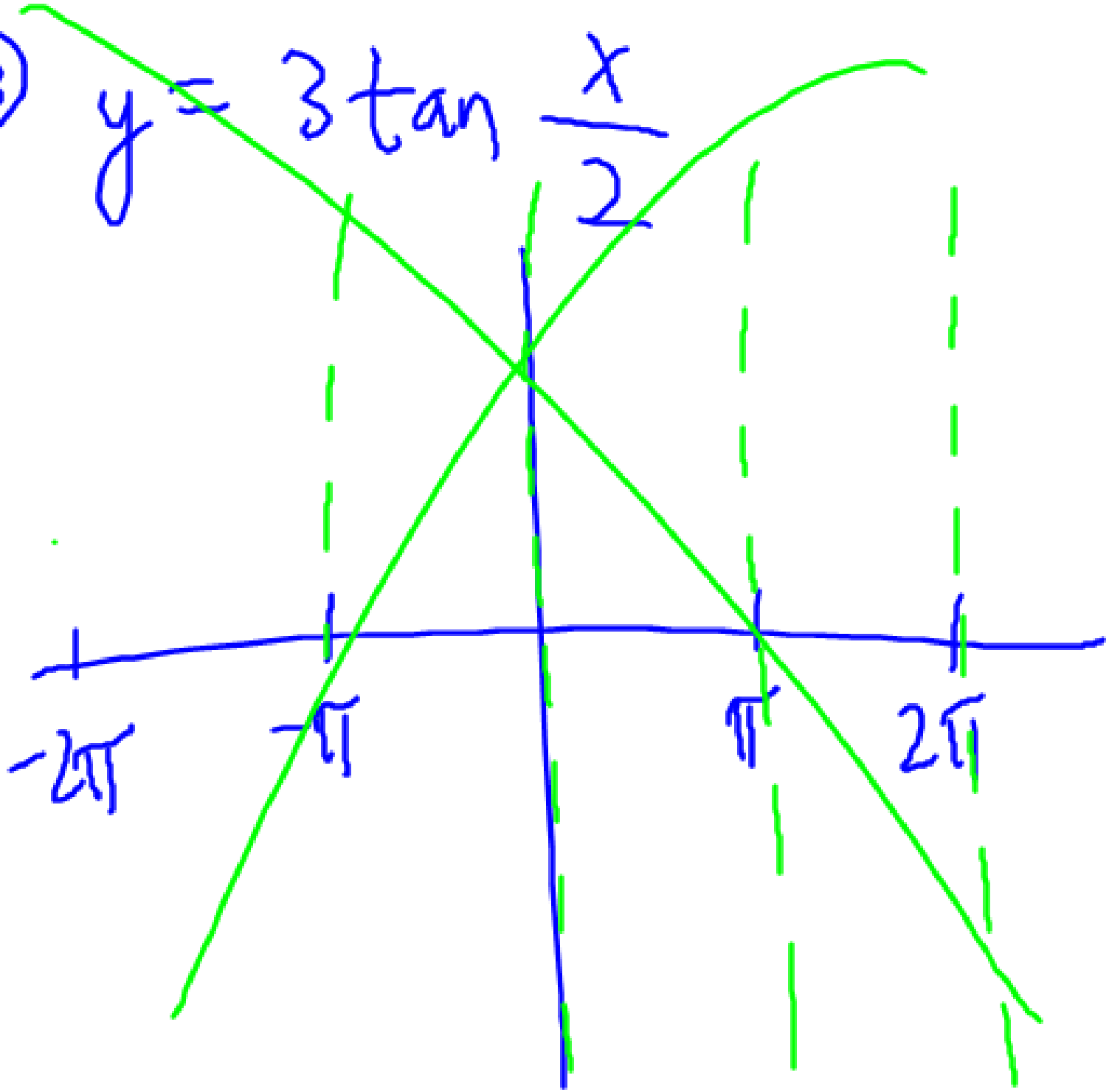
R: $(-\infty, \infty)$

$$y = \cot x = \frac{\cos x}{\sin x}$$

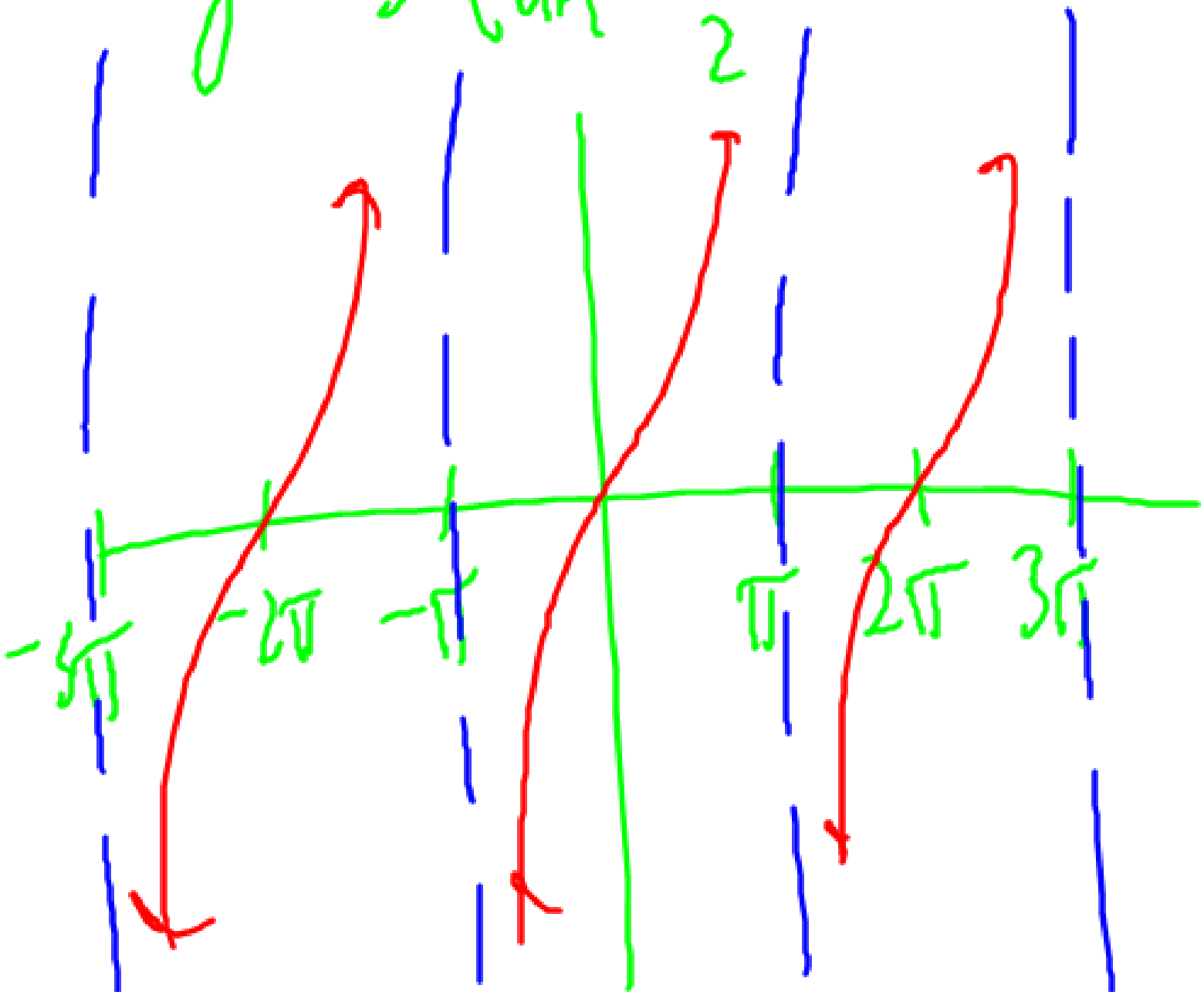
D: $(-\infty, \infty)$ except $k\pi$ where k is an integer



③ $y = 3\tan\frac{x}{2}$



③ $y = 3\tan\frac{x}{2}$



④ $\sec x = 2$ $\qquad \pi < x < 2\pi$

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

$x = 300^\circ$

$x = \frac{5}{3}\pi$

5 $\cot x = 3.5 \qquad 0 < x < \frac{\pi}{2}$

$y_1 = \frac{1}{\tan x} \qquad y_2 = 3.5$

$x \approx 0.28$