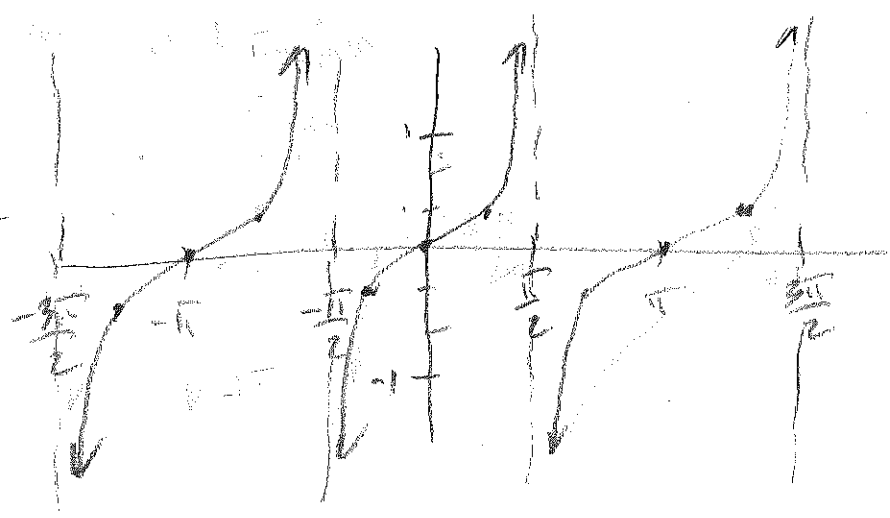


4.6 day 2. p 339, # 7, 9, 19, 22, 24, 30

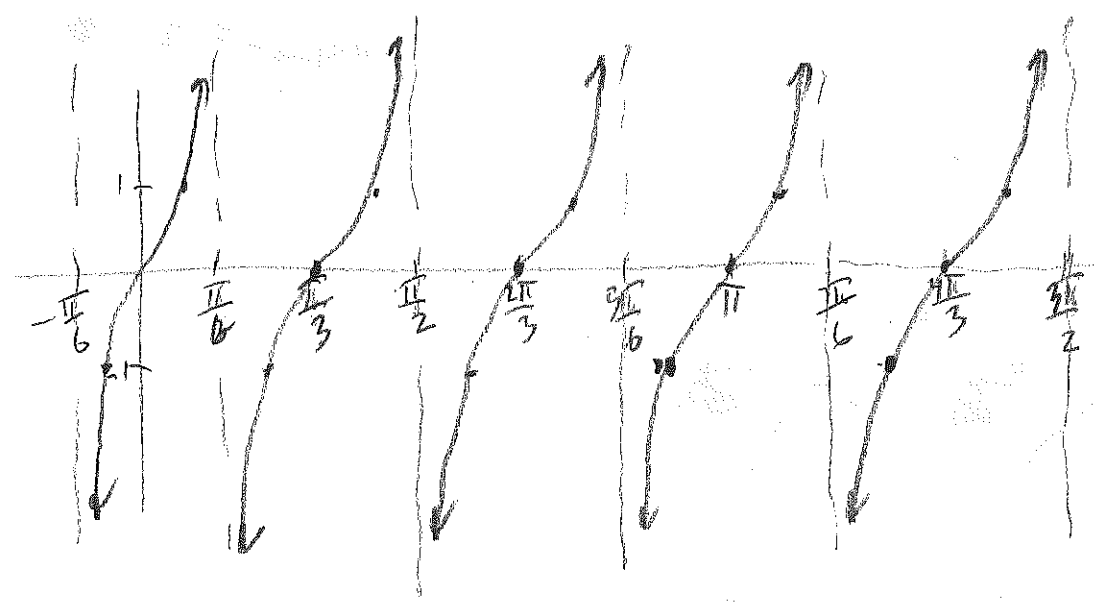
⑦ $y = \frac{1}{3} \tan x$



period = π
 asymptotes = $-\pi/2, \pi/2, 3\pi/2, \dots$

⑨ $y = \tan 3x$

$3x = \frac{\pi}{2} \Rightarrow x = \frac{\pi}{6}$
 $3x = -\frac{\pi}{2} \Rightarrow x = -\frac{\pi}{6}$

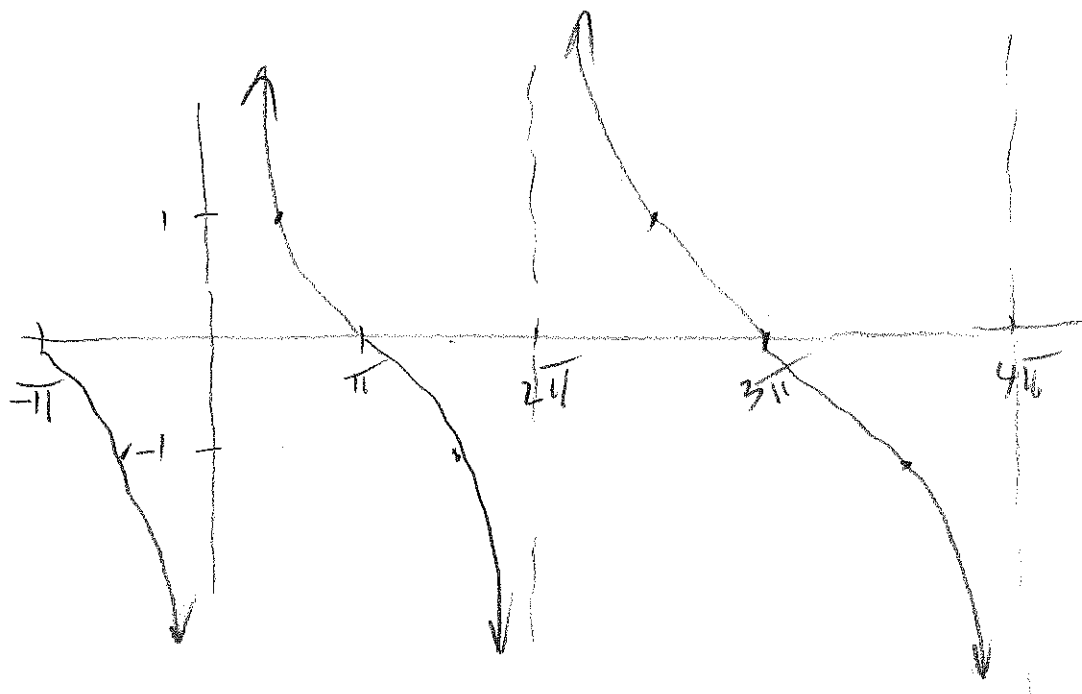


Period = $\frac{\pi}{3}$
 asymp. @ $-\frac{\pi}{6}, \frac{\pi}{6}, \frac{2\pi}{3}, \frac{5\pi}{6}, \dots$

(19) $y = \cot \frac{x}{2}$

$\frac{x}{2} = 0$
 $x = 0$

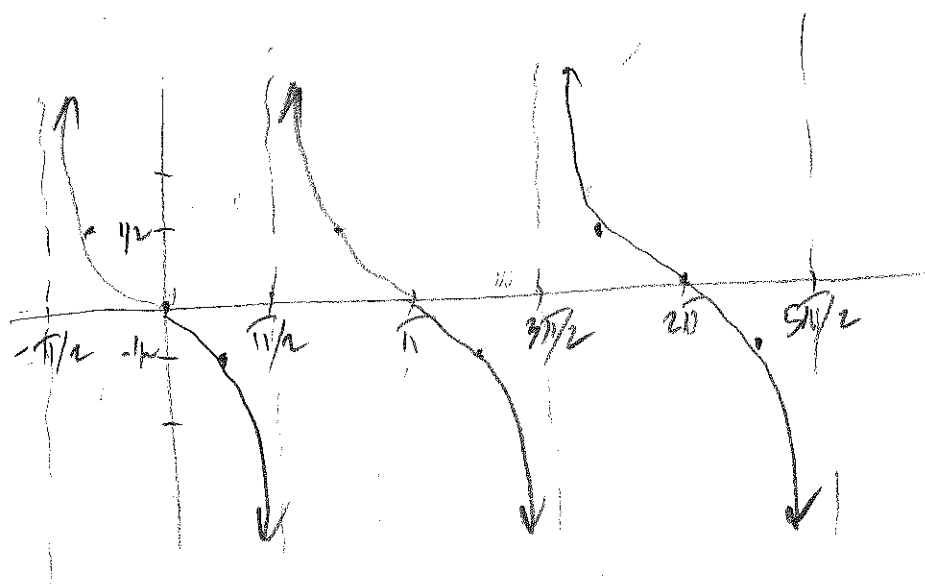
$\frac{x}{2} = \pi$
 $x = 2\pi$



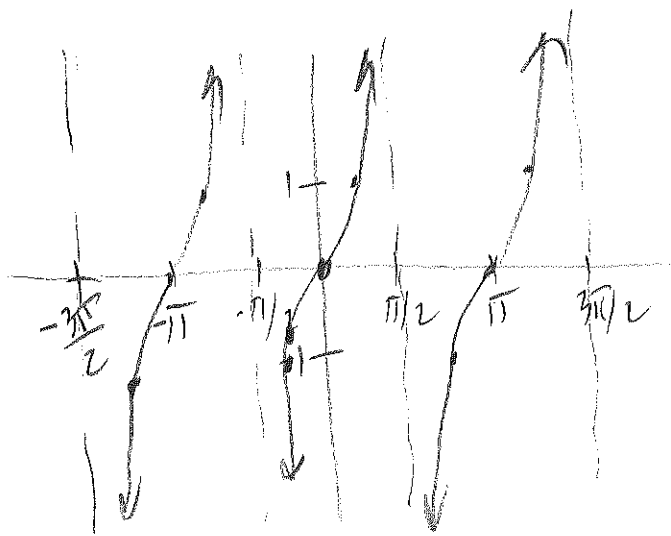
Period = 2π
 asympt. @ $0, 2\pi, 4\pi, \dots$
 zeros @ $-\pi, \pi, 3\pi$

(22) $y = -\frac{1}{2} \tan x$

period = π
 asympt @ $\frac{\pi}{2}, \frac{3\pi}{2}$



$$(24) y = \tan(x + \pi)$$



$$x + \frac{\pi}{2} = 0 \Rightarrow x = -\frac{\pi}{2}$$

$$x + \frac{\pi}{2} = \pi \Rightarrow x = \frac{\pi}{2}$$

$$(30) y = 2 \cot(x + \frac{\pi}{2})$$

