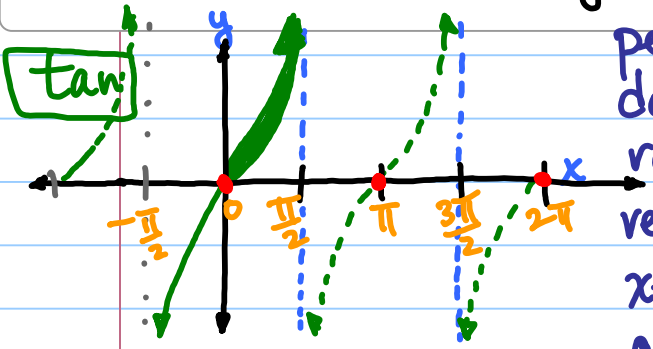
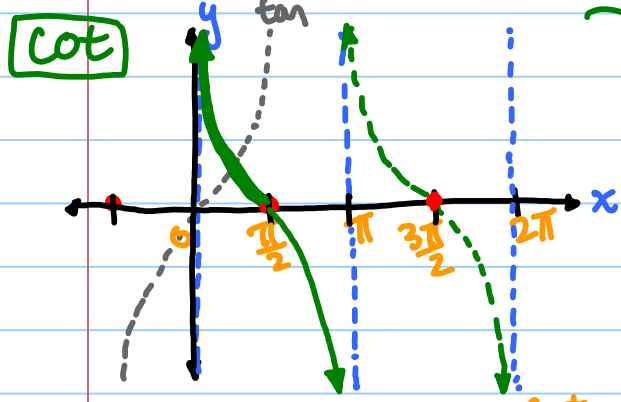


4.6 (part 2) Tangent & Cotangent Graphs.....



period: π
 domain: \mathbb{R} , except odd multiples of $\frac{\pi}{2}$
 range: \mathbb{R}
 vert. asymptotes: $\frac{\pi}{2} + \pi n$
 x-int: $0 + \pi n$
 odd function: origin symmetry
 $\rightarrow \tan(-x) = -\tan x$

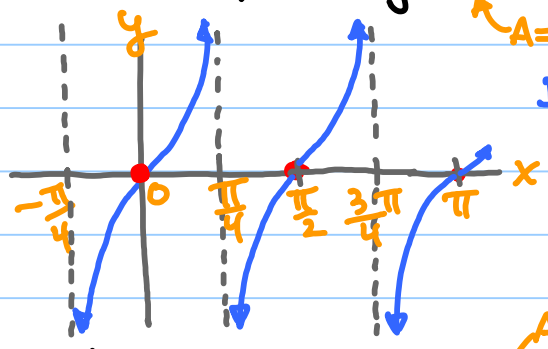


period: π
 domain: \mathbb{R} , except $0 + \pi n$
 range: \mathbb{R}
 vert asymptotes: πn
 odd function: ----

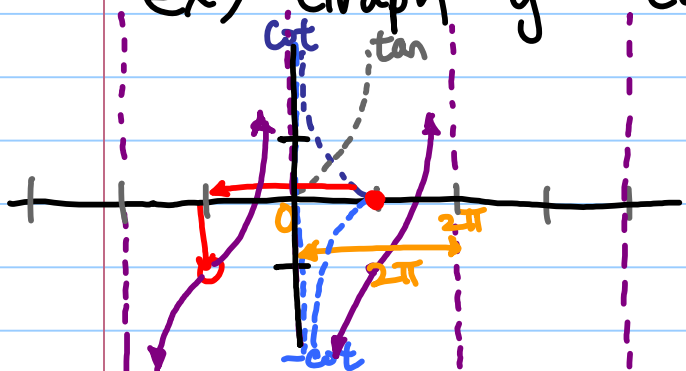
$$y = A \tan(B\theta - C) + D$$

period: $\frac{\pi}{B}$ phase shift: $\frac{C}{B}$ vertical shift: D

ex) Graph $y = \frac{1}{2} \tan 2x$
 $A = \frac{1}{2}$ $B = 2$ $C = 0$ $D = 0$
 period: $\frac{\pi}{2}$



ex) Graph $y = -\cot(\frac{1}{2}x + \pi) - 1$
 $A = -1$ $B = \frac{1}{2}$ $C = -\pi$ $D = -1$



period: $\frac{\pi}{\frac{1}{2}} = 2\pi$
 phase shift: $\frac{-\pi}{\frac{1}{2}} = -2\pi$ (left)
 v.s.: -1 down

HW
 P 546,
 # 6-12 even, 18-24 even,
 45, 46