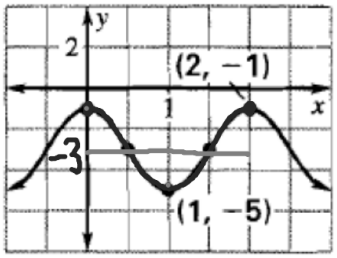
CC Algebra 2/Trig Honors 11-1/11-2 Date May 30
Writing Trig Functions for Graphs

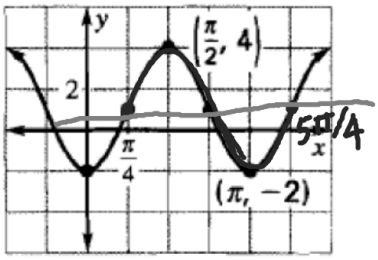
Ex. 1: **Write a cosine function for the graph shown.**



per = 2, $b = \pi$ $\left(\frac{2\pi}{2} = \pi\right)$
vert shift $K = -3$
$\frac{\text{MAX} + \text{min}}{2} = \frac{-1 + -5}{2} = -3$
amp = 2

$y = 2\cos \pi x - 3$

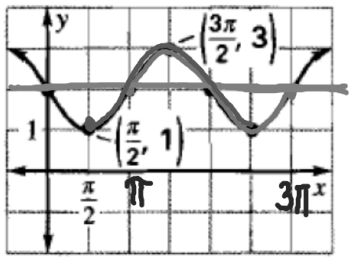
Ex. 2: **Write a sine function for the graph shown.**



per = π, $b = 2$ $\left(\frac{2\pi}{\pi} = 2\right)$
vert shift $K = 1$
amp = 3
horiz shift $h = \frac{\pi}{4}$

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

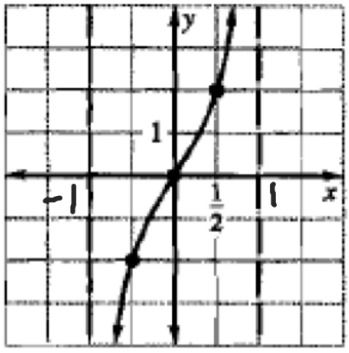
Ex. 3: **Write a sine function and a cosine function for the graph shown.**

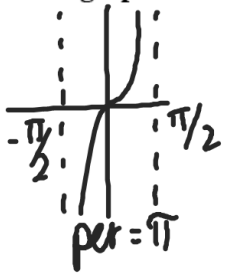


per = 2π, $b = 1$
vert shift $K = 2$
amp = 1
horiz shift $h = \pi$
$y = \sin(x - \pi) + 2$

horiz shift $h = \frac{\pi}{2}$
$y = -\cos(x - \pi/2) + 2$

Ex. 4: **Write a tangent function for the graph shown.**





per = 2, $b = \pi/2$
$\frac{\pi}{b} = 2$
$b_{\pi/2} = b$
$\mp a = \mp 2$

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