**P1. (3pts.)** Graph both $\sin(x)$ and $\cos(x + \pi/2)$ using the axes below.

Phase shifts correspond to horizontal translations of the $\sin / \cos$ graphs, so we get the following. The solutions for each quiz form were a bit different, so I included both graphs below.
P2. (3pts.) Rewrite as an algebraic expression. Then find the value when \( x = 2 \).

\[
\csc(\tan^{-1}(x))
\]

Write \( \theta = \tan^{-1}(x) \), so that \( \tan \theta = x \). We know that for any triangle containing angle \( \theta \), the ratio of the opposite side to \( \theta \) and the adjacent side to \( \theta \) is \( x \). One such triangle is the following.

\[
\begin{align*}
\text{opp} & \quad \sqrt{x^2 + 1} \\
\text{adj} & \quad 1 \\
\theta & \quad x
\end{align*}
\]

The hypotenuse \( \sqrt{x^2 + 1} \) is deduced using the Pythagorean theorem. So,

\[
csc \theta = \frac{1}{\sin \theta} = \frac{\text{hypotenuse}}{\text{opposite}} = \frac{\sqrt{x^2 + 1}}{x}
\]

Evaluating this at \( x = 2 \), we obtain \( \csc(\tan^{-1}(2)) = \sqrt{2^2 + 1}/2 = \sqrt{5}/2 \).

P3. (3pts.) One of Kanye West's roadies is using a ten foot long board as a ramp to load equipment into the back of his fabulous pickup truck. The bed of the truck is five feet above the ground. What angle does the board make with the ground?

From the picture, we can see that

\[
\sin \theta = \frac{5}{10} = \frac{1}{2}
\]

and thus

\[
\theta = \sin^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{6}
\]

P4. (1pt.) Tell me a band / artist / musician I may not have heard about.

Die Antwoord. Zef side represent.