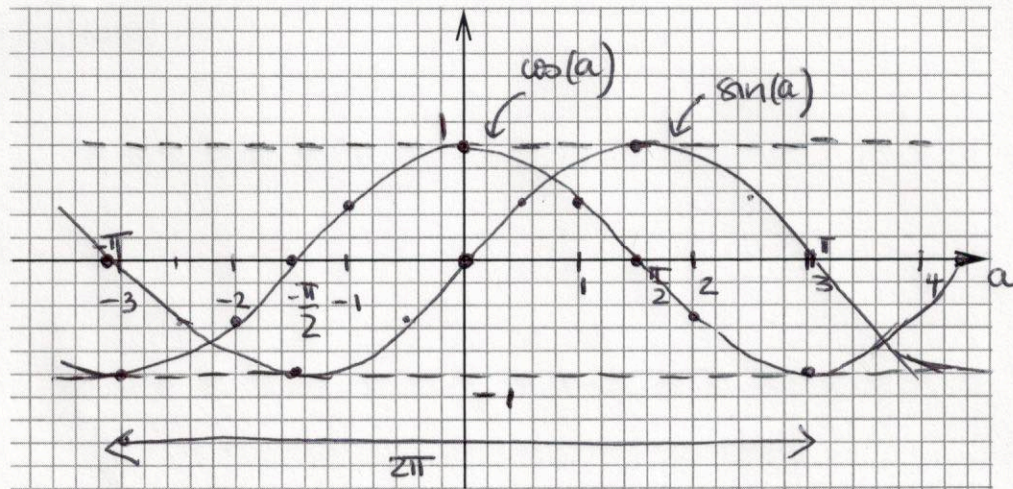


Finally, we can use this information to plot the sine and cosine functions:

$$\begin{aligned}\pi &\approx 3.1 \\ \frac{\pi}{2} &\approx 1.5 \\ \frac{\pi}{3} &\approx 1 \\ \frac{\pi}{4} &\approx 0.75 \\ \frac{\pi}{6} &\approx \frac{1}{2}\end{aligned}$$



6.3.3 What can we deduce from the graphs of $\sin(x)$ and $\cos(x)$?

Based on the graphs of $\sin(x)$ and $\cos(x)$, we see that

- $-1 \leq \cos(x) \leq 1$ $-1 \leq \sin(x) \leq 1$ \rightarrow Range is $[-1, 1]$
- $\sin(x)$ is odd $\rightarrow \sin(-x) = -\sin(x)$
- $\cos(x)$ is even $\rightarrow \cos(-x) = \cos(x)$
- $\sin(x) = \sin(x + 2\pi)$ $\cos(x) = \cos(x + 2\pi)$
- $\sin(x)$ is shifted by $\frac{\pi}{2}$ to the right compared with $\cos(x) \rightarrow \sin(x) = \cos(x - \frac{\pi}{2})$.

6.3.4 The graph of the tangent function

Textbook Section 5.5

We now look at the graph of the tangent function. By contrast with $\sin(x)$ and $\cos(x)$, $\tan(x)$ is not defined everywhere: