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### 0.1 Representing wave functions

Wave function are of the form:

$$\cos(ax + b)$$

$$\sin(ax + b)$$

We can use the following identities:

- $\cos(x) = \sin(x + \frac{\pi}{2})$
- $\sin(-x) = -\sin(x)$
- $\sin(a + b) = \sin(a)\cos(b) + \sin(b)\cos(a)$

So we can write any function as:

#### 0.1.1 Using $e$