

$$A: \mathbb{R}^m \rightarrow \mathbb{R}^n$$

$$v_1, \dots, v_m$$

Eigenvectors

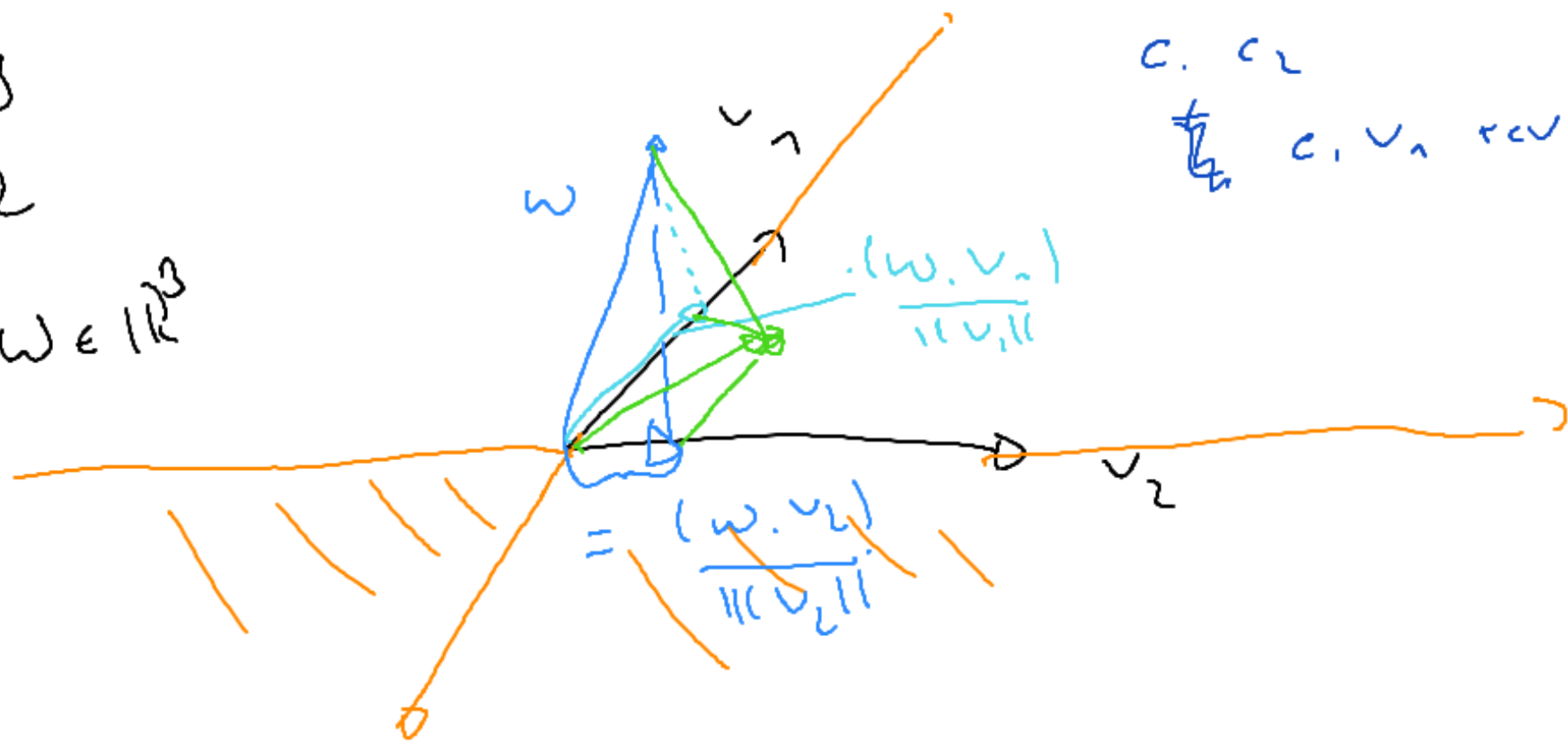
$$m = 3$$

$$N = 2$$

$$\Phi = \omega \in \mathbb{R}^3$$

$$c_1, c_2$$

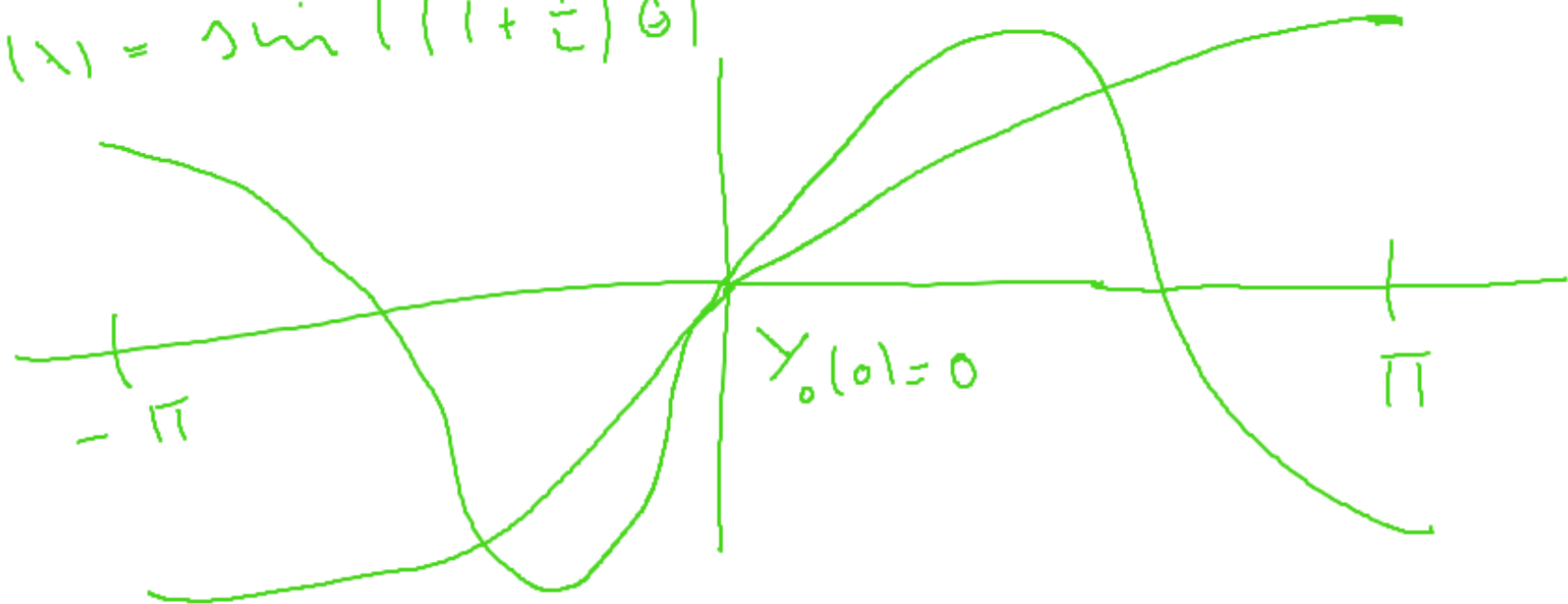
$$\sum_{i=1}^2 c_i v_i$$



$$Y_0(x) = \sin\left(\frac{1}{2}\Theta\right)$$

$$Y_1(x) = \sin\left(\left(1 + \frac{1}{2}\right)\Theta\right)$$

$$\frac{d}{d\Theta} Y_0 = 0$$



$$(a + c)^2 \leq 2a^2 + 2c^2$$

$$\begin{aligned} \sqrt{(a+c)^2} &+ (a-c)^2 = a^2 + c^2 + \cancel{2a \cdot c} \\ &+ a^2 + c^2 - \cancel{2a \cdot c} \\ &= 2a^2 + 2c^2 \end{aligned}$$