Contents

0.1 Angles

0.1.1 Recap: Cauchy-Schwarz inequality

This states that:

$|\langle u, v\rangle|^2 \leq \langle u, u\rangle\dot{\langle} v, v\rangle$

Or:

$\langle v, u\rangle\langle u, v\rangle \leq \langle u, u\rangle\dot{\langle} v, v\rangle$

0.1.2 Introduction

$\langle v, u\rangle\langle u, v\rangle \leq \langle u, u\rangle\dot{\langle} v, v\rangle$

$\frac{\langle v, u\rangle\langle u, v\rangle}{||u||.||v||} \leq ||u||.||v||$

$\frac{||u||.||v||}{\langle v, u\rangle} \geq \frac{\langle u, v\rangle}{||u||.||v||}$

$\cos(\theta) = \frac{\langle u, v\rangle}{||u||.||v||}$