

Analysis in \mathbb{R}^n
Math 203, Section 30
Autumn Quarter 2007
Written Exercises from Thursday, October 4

Exercise 0.0.1 Prove the result in Theorem 0.0.22 for \mathbb{E}^2 using the Law of Cosines. Specifically, show that, given two non-zero vectors $\mathbf{v}, \mathbf{w} \in \mathbb{E}^2$ with angle θ between them, we have:

$$\cos \theta = \frac{\langle \mathbf{v}, \mathbf{w} \rangle}{\|\mathbf{v}\| \|\mathbf{w}\|}.$$