Worksheet
3/4/2020

Name: _____

1. Let $V = \{u : [0,1] \to \mathbb{R}, \ u \text{ is continuous}\}$ be an inner product space with the inner product

$$(u, v) = \int_0^1 u(x)v(x)dx.$$

Find an orthonormal basis of $P_2(\mathbb{R})$.

See Lecture 24

2. Find the orthogonal projection of $u(x) = \cos x$ on the space $P_2(\mathbb{R})$.

See Lecture 24 (and the later part of Lecture 23).