

Name:
Student ID:

Tuesday section time:

Math 20F - Linear Algebra - Winter 2003

Quiz #6 $\frac{1}{2}$ — March 4

Do not hand in this quiz: it is for self-assessment.

Try this quiz without referring to the answers (on back of paper copy) first!

1. Consider the following table of data values.

x	-1	0	1	2
y	0	4	2	4

Find the best linear least squares fit to the data. That is, find the linear function $f(x) = c_0 + c_1x$ that best fits the data in the least squares sense.

2. Let $\mathbf{u}_1 = (1, 1, 1)^T$ and $\mathbf{u}_2 = (1, -1, 0)^T$. Are these vectors orthogonal? Orthonormal? Let $\mathbf{x} = (0, 1, 1)^T$. Find the projection \mathbf{p} of \mathbf{x} onto the subspace $\text{Span}(u_1, u_2)$.