Name:

SM223 – Calculus III with Optimization Fall 2017
Assoc. Prof. Nelson Uhan

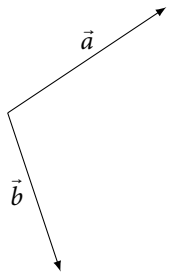
Quiz 2 – 31 August 2017

Instructions. You have 10 minutes to complete this quiz. You may not use any other materials (e.g., notes, homework, books, calculator). Show all your work.

Problem	Weight	Score
1	1	
2	1	
3	1	
Total		/ 30

Problem 1. Find the angle between $\vec{a} = \langle 2, 3, -1 \rangle$ and $\vec{b} = \langle 1, 2, 1 \rangle$. You do not need to simplify any trigonometric expressions.

Problem 2. The vectors $\vec{a} = \langle 1, 3 \rangle$ and $\vec{b} = \langle 2, -3 \rangle$ are drawn on the right. On the diagram, draw $\text{proj}_{\vec{a}} \vec{b}$.



Problem 3. Find a vector orthogonal to $\vec{a} = \langle 3, 0, 4 \rangle$ and $\vec{b} = \langle -1, 0, 2 \rangle$.