Math 251
Assignment 1

Deadline: Wed Jan 27, 2:30pm Pacific Time
Submit on D2L

Number of Questions: 3
Total Marks: 10 marks

Show all your work for full marks.
You MAY use the course website (notes, videos etc) and your own notes
You may NOT copy from others (classmates, tutors, Chegg etc)

Submit jpg or pdf files
Feel free to handwrite your solutions and take photos of your work

Covers Sections 1.1-1.4

1. [2 marks] Find the area of the triangle determined by $\mathbf{a} = [3, -6, 9]$ and $\mathbf{b} = [4, 8, 1]$.

2. [4 marks] Find the distance between $2x-3y+7z = 4$ and $2x-3y+7z = 9$.

3. [4 marks] Let $\mathbf{u} = [a, b]$ be a nonzero vector.
Let $\mathbf{v} = [a\cos\beta - b\sin\beta, a\sin\beta + b\cos\beta]$, where $0 \leq \beta \leq \pi$. Find the angle between $\mathbf{u}$ and $\mathbf{v}$.