

H.W # 1 (Math 211)

Q.1 Describe and sketch the surface

$$x^2 + z^2 = 1$$

Q.2 Let $u = 3i + j - k$. Find a unit vector in the opposite direction of u .

Q.3 Given that $(b \times 2c) \cdot 4a = -32$,

find the volume of the parallelepiped determined by a , b , and c .

Q.4 Let a, b be unit vectors in V_3 .

If the angle θ between a and b is

obtuse and $|a \times b| = \frac{1}{\sqrt{2}}$, find

$a \cdot b$.