

Quiz 10

This quiz is graded out of 8 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. §3.5 #38 It is a theorem of solid geometry that the volume of a tetrahedron is $\frac{1}{3}(\text{area of base}) \cdot (\text{height})$. Use this result to prove that the volume of a tetrahedron whose sides are the vectors \vec{a} , \vec{b} , and \vec{c} is $\frac{1}{6}|\vec{a} \cdot (\vec{b} \times \vec{c})|$ (see accompanying figure).