

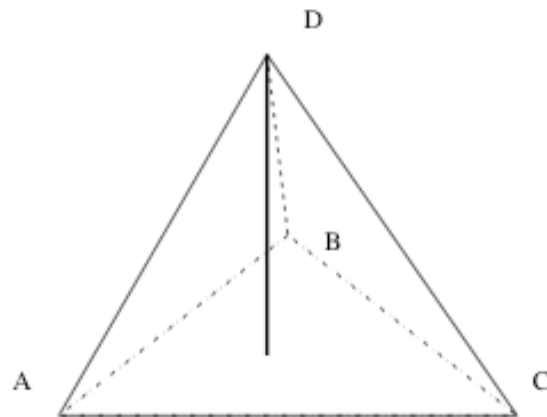
Please do with all step showing how you arrive at the answer

- (c) (i) Find the area of the triangle with vertices $(t, t-2)$, $(t+2, t+2)$, $(t-3, t)$
Does the area change with t ?

(2 marks)

- (ii) In a theorem of solid geometry, the volume of the tetrahedron is $\frac{1}{3}(\text{base area}) \times (\text{height})$. Compute the volume of the tetrahedron with vertices $A(-1, 2, 0)$, $B(3, 5, 1)$, $C(0, 0, 1)$ and $D(4, -1, 3)$.

(5 marks)



Hint :Use the modulus of determinant and take A as the reference point to compute the volume of parallelepiped first.