

Vector Product - Exercises (1 page; 12/5/26)

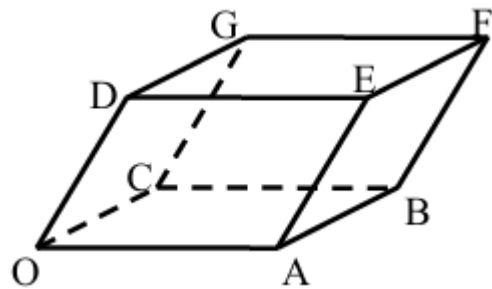
(1) Find the volume of the tetrahedron with corners
 $(2, 1, 3)$, $(-1, 5, 0)$, $(4, 4, 7)$, $(8, 2, 2)$

(2) Use the vector product to find the area of the triangle with
 corners $A(1, 2, 3)$, $B(4, 5, 6)$ & $C(9, 8, 7)$

(3) Given that the volume of the parallelepiped shown is equal to
 $|\overrightarrow{OD} \cdot (\overrightarrow{OA} \times \overrightarrow{OC})|$, show that it also equals

(i) $|\overrightarrow{OA} \cdot (\overrightarrow{OB} \times \overrightarrow{OD})|$

and (ii) $|\overrightarrow{OA} \cdot (\overrightarrow{OB} \times \overrightarrow{OF})|$



(4) (a) Show that the points

$A(24, 8, -2)$, $B(9, 10, 2)$, $C(3, 12, 3)$ and $D(21, 14, -4)$ are coplanar.

(b) Find the volume of the solid $OABCD$ (where O is the Origin).