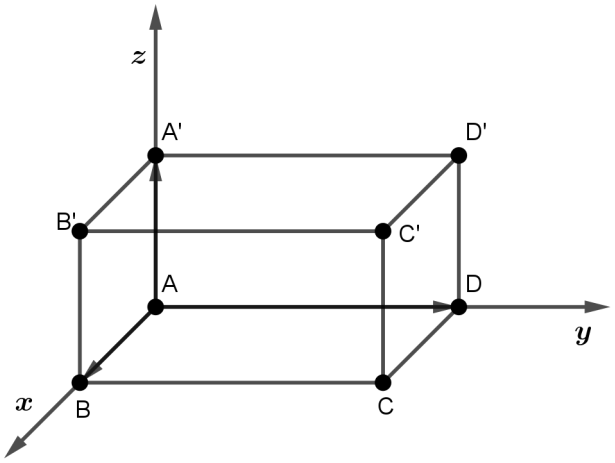
VOLUME OF THE RIGHT PARALLELIPIPED

DANIEL SITARU - ROMANIA



$$B(L,0,0); D(0,l,0); A'(0,0,h)$$
$$\overrightarrow{AB} = L\,\overrightarrow{i}\,; \overrightarrow{AD} = l\,\overrightarrow{j}\,; \overrightarrow{AA'} = h\,\overrightarrow{k}$$
$$\overrightarrow{AB} \times \overrightarrow{AD} = \begin{vmatrix} \overrightarrow{i} & \overrightarrow{j} & \overrightarrow{k} \\ L & 0 & 0 \\ 0 & l & 0 \end{vmatrix} = Ll\,\overrightarrow{k}$$
$$\overrightarrow{AA'} = (0-L)\,\overrightarrow{i} + (0-0)\,\overrightarrow{j} + (h-0)\,\overrightarrow{k} = -L\,\overrightarrow{i} + h\,\overrightarrow{k}$$
$$\overrightarrow{AA'} \cdot (\overrightarrow{AB} + \overrightarrow{AD}) =$$
$$= (-L\,\overrightarrow{i} + h\,\overrightarrow{k})(0 \cdot \overrightarrow{i} + 0 \cdot \overrightarrow{j} + Ll\,\overrightarrow{k}) =$$
$$= -L \cdot 0 + 0 \cdot 0 + h \cdot L \cdot l = Llh$$
$$V[ABCDA'B'C'D'] = Llh$$

Mathematics Department, National Economic College "Theodor Costescu", Drobeta Turnu - Severin, Romania
Email address: dansitaru63@yahoo.com