Proof : I see I f = 2 palded in the
Proof: a) [>] Obriously if v L every vestor in w then v L expression in a separating set.
[] Let S= QW,, wo 3 de a spanning set for by and suppose VI wo holds for all ", to
LI TO EW
then w= C, w, + · - + cp wp
3 (to, v)= < (w, ++ c, wo, v)
= (, \overline{\pi}, \overline{\pi}) + + &p & \overline{\pi}, \overline{\pi})
=0 as seq.

w w is a subspace of V, and Wnw = foz
using prop 8.
(i) Clearly $G \in W^{\frac{1}{2}}$ (ii) Suppose $\overline{v}_1, \overline{v}_2 \in W^{\frac{1}{2}}$, and $\overline{\omega} \in W$
71) Suppose V, J, E wt, and w E W
Then: $\langle \bar{u}, +\bar{u}_2, \bar{u} \rangle = \langle \bar{u}, \bar{u} \rangle + \langle \bar{v}, \bar{u} \rangle = 0$ (: $\bar{v}, \bar{v}_2 \in W^2$)
1: 5, 5, EW+)
and the second of the second o
in) I LEE, then < CU, D> = CKU, D> =0
3 $e\bar{v}, \in \omega^2$
Finally, suppose TOE WAW'
then LW, WY =0 <>> 50 < 50 = 5
The same of the sa