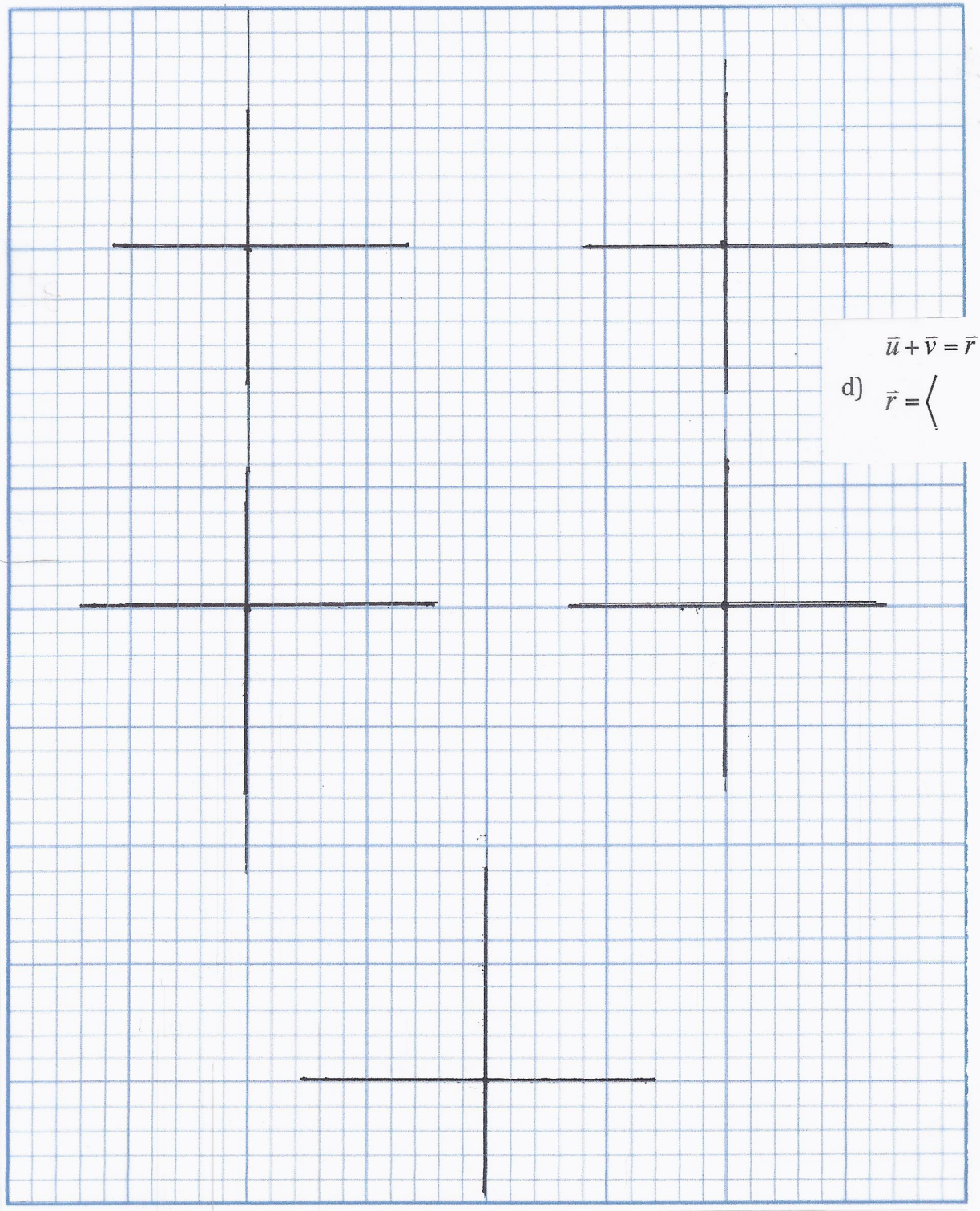
VECTORS (Geometric approach)

Given these points P (3,5) Q (6,8) R (-2, -3) and S (-5,1) $\vec{u} = \overrightarrow{PQ}, \vec{v} = \overrightarrow{RS}$

a) Draw $\vec{u}, \vec{v}$

b) standard position: $\vec{u} = \langle \quad \rangle, \vec{v} = \langle \quad \rangle$



c) Draw

$-\frac{1}{2}\vec{u}$,

$2\vec{v}$

$\vec{u} + \vec{v} = \vec{r}$

d) $\vec{r} = \langle \quad \rangle$

e) $2\vec{u} - \vec{v} = \vec{r} = \langle \quad \rangle$

VECTORS (Algebraic) P (3,5) Q (6,8) R (-2,-3) S (-5,1)

	Magnitude, direction $\|\vec{v}\|$ θ	Component form $\langle v_1, v_2 \rangle$	Unit Vector form $a\hat{i} + b\hat{j}$	Direction angle form $\|\vec{v}\| \langle \cos\theta, \sin\theta \rangle$
$\vec{u} = \overrightarrow{PQ}$ $\vec{v} = \overrightarrow{RS}$				
$-\frac{1}{2}\vec{u}$ $2\vec{v}$				
$\vec{u} + \vec{v}$				
$2\vec{u} - \vec{v}$				