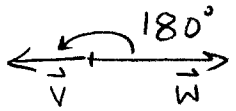
# – REVIEW I –
# SOLUTIONS TO SELECTED PROBLEMS

03/02/04

(1) a) 


b) Either $30^\circ$ or $150^\circ$

(2) (a) False
(b) TRUE
(c) False

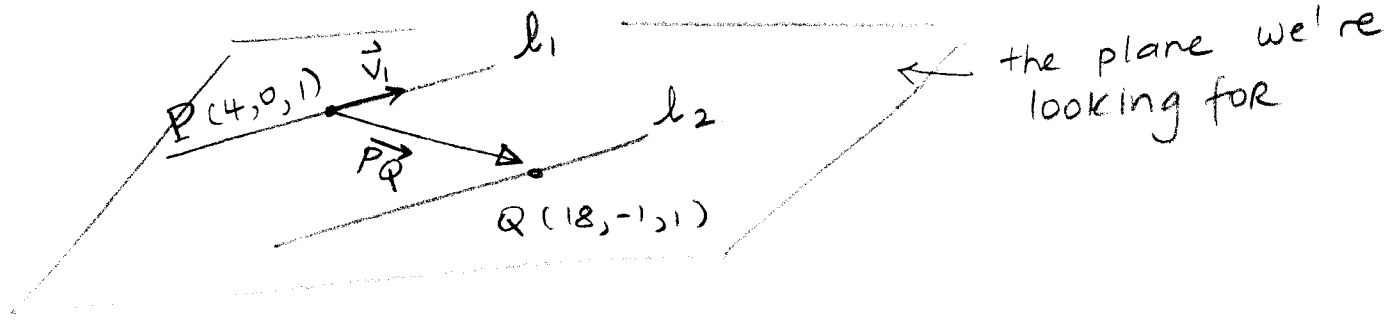
(d) Take $\vec{a} \times \vec{b}$

(e) $\| \vec{a} \times \vec{c} \|$

(f) $\vec{b}$ and $\vec{d}$ : since they are parallel vectors

(3) Direction vectors: $\vec{v}_1 = \langle -1, 2, 1 \rangle$ and $\vec{v}_2 = \langle 2, -4, -2 \rangle$

$\vec{v}_2 = -2\,\vec{v}_1 \Rightarrow \ell_1 \parallel \ell_2$




- (4,0,1) = P is a point on $\ell_1$
- (18,-1,1) = Q is a point on $\ell_2$

$\Rightarrow \vec{PQ} = \langle 14, -1, 0 \rangle$

Now, $\vec{v}_1 \times \vec{PQ}$ is a normal vector for the plane.

(Complete the rest!)