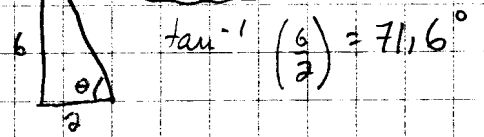


CORRIGÉ VECTEURS ET PRODUIT SCALAIRE

no: 1 a) $\|\vec{v}\| = \sqrt{5^2 + 15^2} = 15,8$

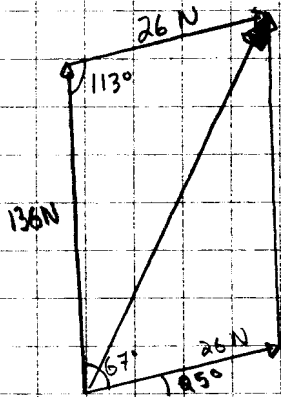


$\theta = 180^\circ - 71,6^\circ = 108,4^\circ$

b) $\|\vec{v}\| = -0,5 \cdot 3,75 = 1,875$

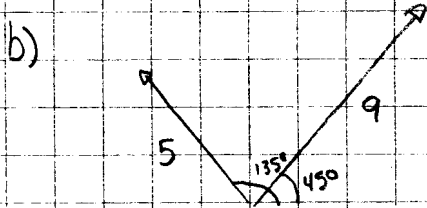
$\theta = 25^\circ$

no: 2



Norme : 148,1 N

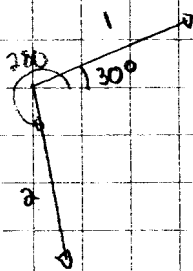
no: 3 a) $\vec{e} \cdot \vec{f} = (6 \cdot 3 + 2 \cdot 9) = -18 + 18 = 0 \rightarrow \perp$



$\theta = 135^\circ - 45^\circ =$

$\vec{q} \cdot \vec{h} = 5 \cdot 9 \cdot \cos 90^\circ = 0 \rightarrow \perp$

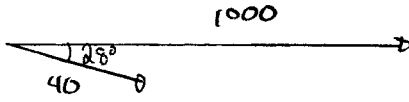
c)



$\theta = 360^\circ - 250^\circ = 110^\circ$

$\vec{p} \cdot \vec{q} = 1 \cdot 2 \cdot \cos 110^\circ = -0,68 \rightarrow \text{NON}$

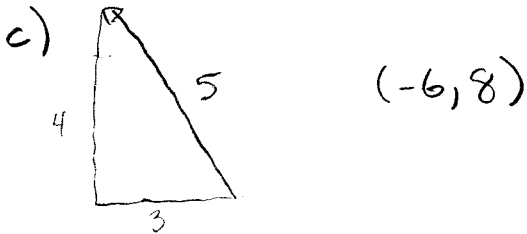
d) $\left(\frac{3}{2} \cdot \frac{1}{4} + \frac{-2}{3} \cdot \frac{4}{3}\right) = \frac{3}{8} - \frac{8}{3} = \frac{9}{24} - \frac{64}{24} = \frac{-55}{24}$ ou $-2,29$

#4  35317,9 J

#5 a) $\vec{0}$ b) $\vec{0}$ c) \overrightarrow{KN} d) $\overrightarrow{OP} + \overrightarrow{PR} + \overrightarrow{RO} + \overrightarrow{OS} = \overrightarrow{OS}$

#6 a) $\vec{t} = (-3, 4)$ et $\vec{t} = (3, -4)$ b) $(5, -2)$

$\hookrightarrow \vec{t} = (-1, 6)$



d) Norme $\vec{t} = 5 \rightarrow (a, b) \cdot (c, d) = 0$
 $(-3, 4) \cdot (c, d) = -3 \cdot c + 4 \cdot d = 0$
 $= -3(4) + 4(3)$
ou $= -3(-4) + 4(-3)$
 $(4, 3)$ ou $(-4, -3) \rightarrow (8, 6)$ ou $(-8, -6)$

#7 a) \overrightarrow{AC} b) \overrightarrow{BD} c) $\overrightarrow{BD} + \overrightarrow{DA} = \overrightarrow{BA}$ d) $\overrightarrow{DA} + \overrightarrow{BD} + \overrightarrow{DC}$
 $\overrightarrow{BA} + \overrightarrow{BA} = 2\overrightarrow{BA}$ $\overrightarrow{DA} + \overrightarrow{BC} = \vec{0}$

#8 $\overrightarrow{XZ} = (2, -5) \leftrightarrow \overrightarrow{ZX} = (-2, 5)$
 $\overrightarrow{XY} = (7, 2) \leftrightarrow \overrightarrow{YX} = (-7, -2)$
 $\overrightarrow{YZ} = (-5, -3) \leftrightarrow \overrightarrow{ZY} = (5, 3)$

a) $\overrightarrow{XM} = (2, -5) + (7, -2) = (9, -7)$
 $(9, -7) + (-3, 3) = (6, -4)$

b) $\overrightarrow{YN} = (-5, -3) + (-7, 2) = (-12, -1)$
 $(4, 1) + (-12, -1) = (-8, 0)$

c) $\overrightarrow{ZP} = (5, 3) + (-2, 5) = (3, 8)$
 $(3, 8) + (-1, 2) = (2, 6)$