Corrigé du TEST 1 Jeudi 24/10/2024 (30mn)

Solution

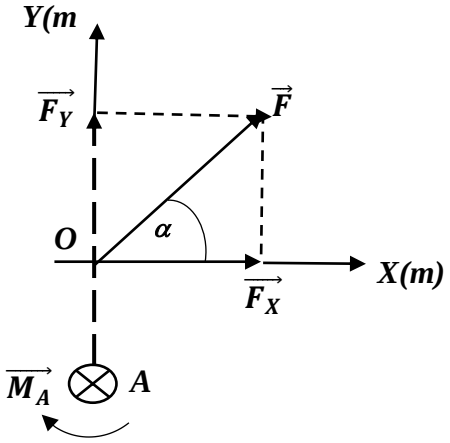
Repère (*OXY*) (5 pts)

	60°	50°	40°
$F_X = 5000 \times cos\alpha$	2500	3214	3830
$F_Y = 5000 \times sin\alpha$	4330	3830	3214

Repère (*OX'Y*) (5 pts)

	60° ; 40°	50° ; 20°	40° ; 30°
$F_{X'} = \frac{5000}{sin\theta} \times sin(90° - \alpha)$	10297	9397	7660
$F_Y = \frac{5000}{sin\theta} \times sin(90° + \alpha - \theta)$	19352	12660	9848

(2 pts)



(2 pts)

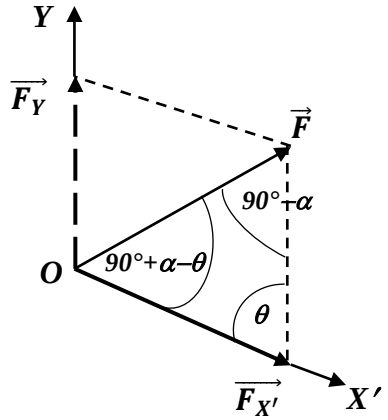


Fig. 1

$$M_A = M_A(\vec{F}_X)^{0} + M_A(\vec{F}_Y)$$
$$M_A = M_{AZ} = -|Y_A| \times F\cos\alpha$$

(2 pts)

(4 pts)

$f)\ M_A = M_{AZ} = -\lvert Y_A\rvert \times F\cos\alpha$	60° ; (0 ;–3)	(50° ; (0 ;–4)	40° ; (0 ;–5)
(*kN*)	7,5	12,9	19,2