Ensayo

Nombre del Alumno: Aguilar López Jorge Alberto

Nombre del tema: Trabajo virtual

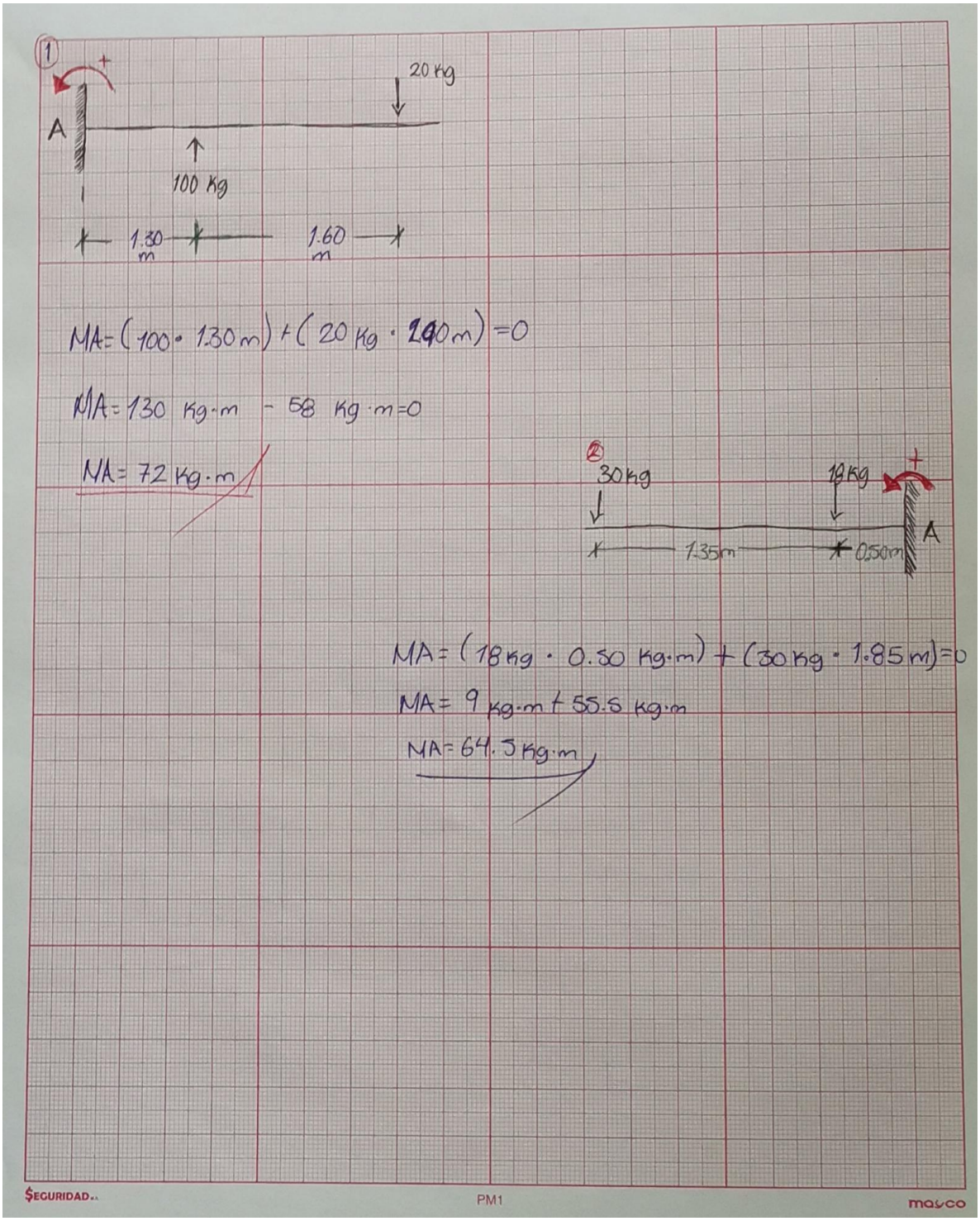
Parcial: 3

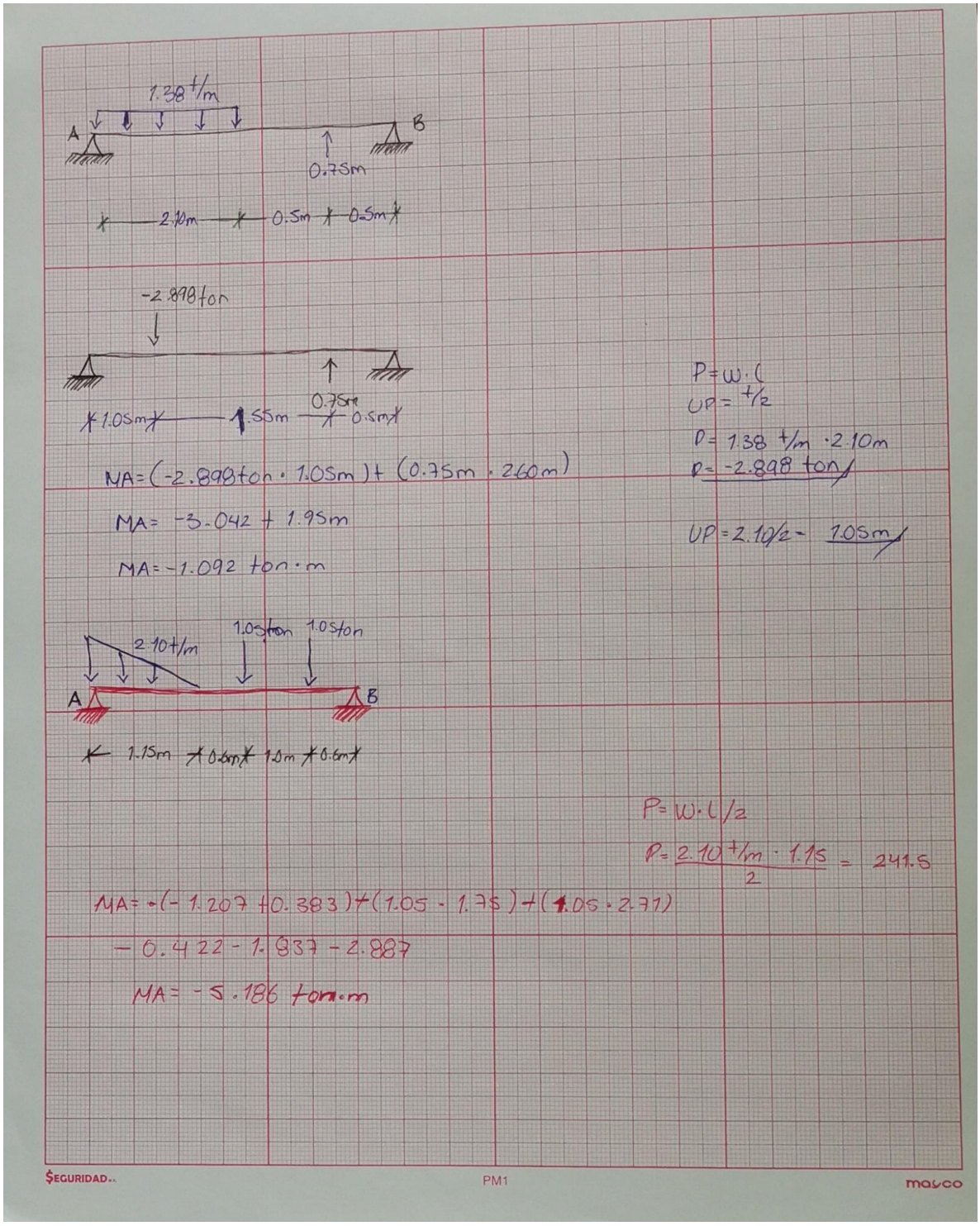
Nombre de la Materia: Estática para la arquitectura

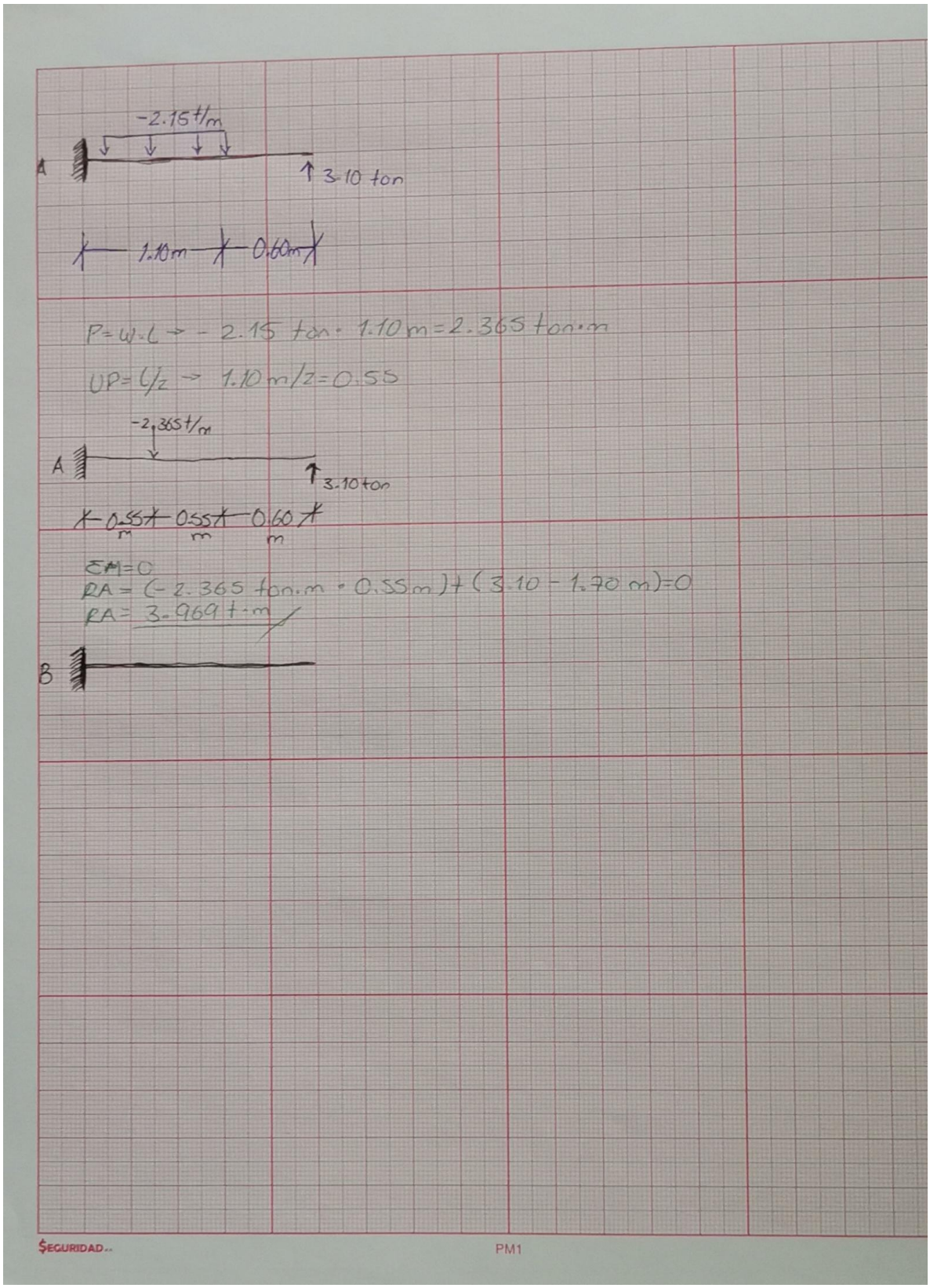
Nombre del profesor: Pedro Alberto García López

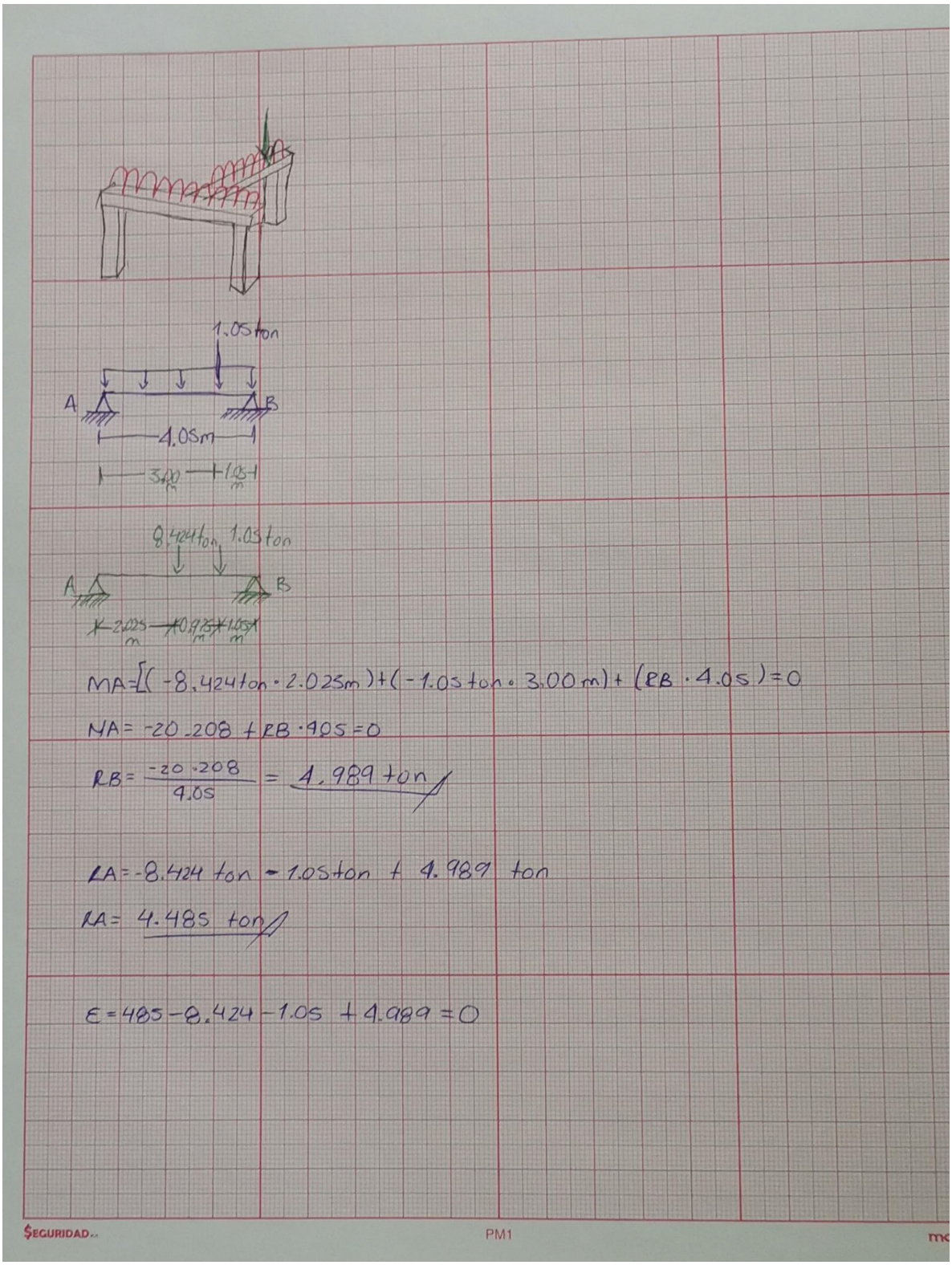
Nombre de la Licenciatura: Arquitectura

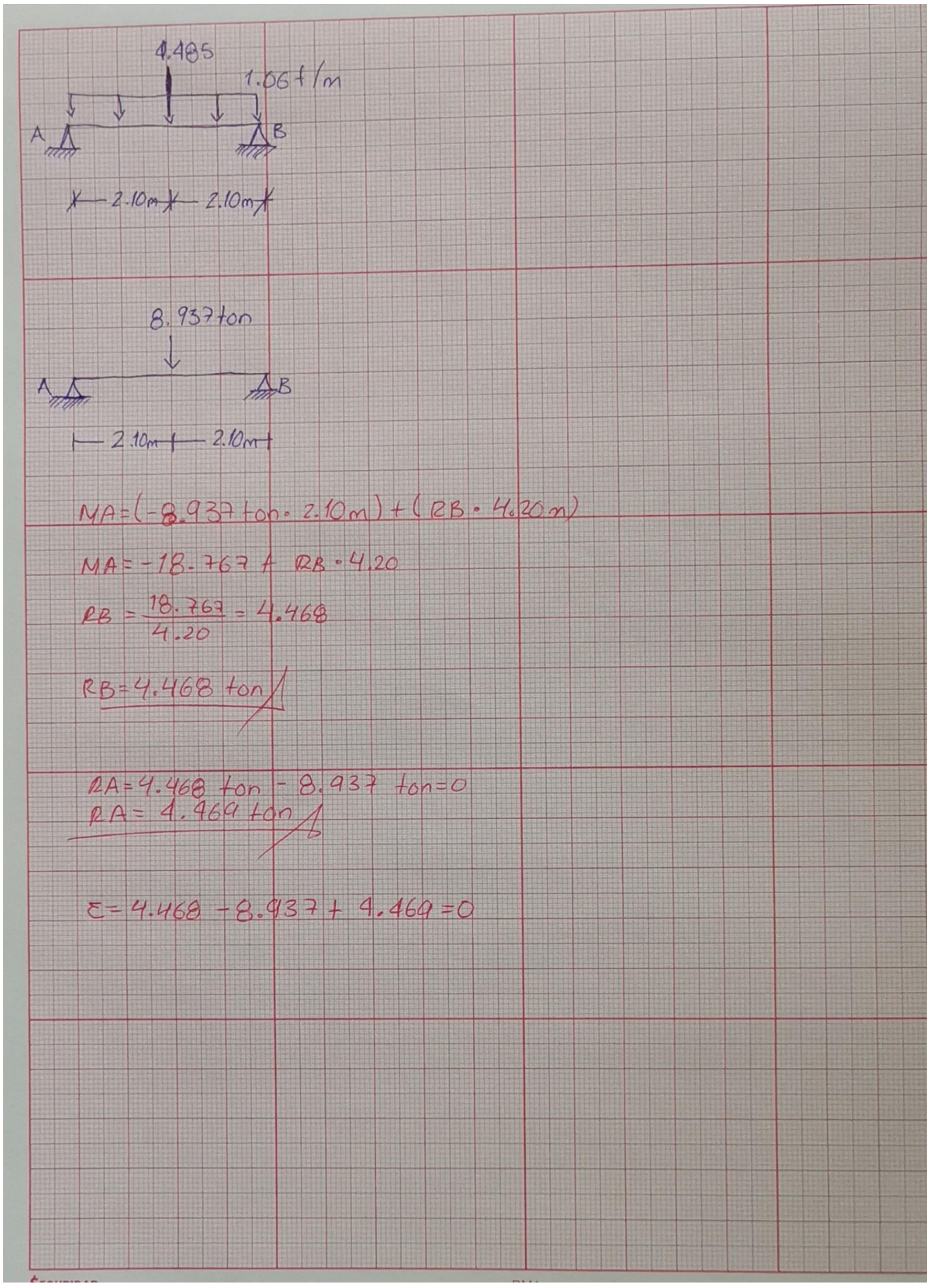
Cuatrimestre: 3


1
+
20 kg
A
100 kg
1.30 m
1.60 m
MA=(100 · 1.30 m)+(20 kg · 1.90 m)=0
MA=130 kg·m - 58 kg·m=0
MA=72 kg·m
2
30 kg
18 kg
+
A
1.35m
0.50m
MA=(18 kg · 0.50 kg·m)+(30 kg · 1.85 m)=0
MA=9 kg·m + 55.5 kg·m
MA=64.5 kg·m
SEGURIDAD
PM1
masco


1.38 t/m
A
B
0.75m
2.10m
0.5m
0.5m
-2.898 ton
1.05m
1.55m
0.75m
0.5m
MA=(-2.898ton · 1.05m)+(0.75m · 2.60m)
MA= -3.042 + 1.95m
MA=-1.092 ton·m
P=W·C
UP= t/2
P= 1.38 t/m · 2.10m
P= -2.898 ton
UP=2.10/2 = 1.05m
2.10t/m
1.05ton
1.05ton
A
B
1.15m
0.2m
1.0m
0.6m
P= W·C/2
P= 2.10 t/m · 1.15 / 2 = 241.5
MA= -(-1.207 +0.383)+(1.05 · 1.75)+(1.05 · 2.71)
-0.422 - 1.837 - 2.887
MA= -5.186 ton·m
SEGURIDAD...
PM1
marco


-2.15 t/m
A
3.10 ton
1.10m
0.60m
P=W·L → -2.15 ton · 1.10m = 2.365 ton·m
UP=L/2 → 1.10m/2 = 0.55
-2.365 t/m
A
3.10 ton
0.55m
0.55m
0.60m
ΣM=0
RA = (-2.365 ton.m · 0.55m) + (3.10 · 1.70 m) = 0
RA = 3.969 t·m
B
SEGURIDAD...
PM1


1.05 ton
A
B
4.05m
3.00
1.05
8.424 ton
1.05 ton
A
B
2.025
0.975
1.05
MA=[(-8.424 ton · 2.025m)+(-1.05 ton · 3.00m)+(RB · 4.05)=0
MA=-20.208 + RB · 4.05=0
RB= -20.208 / 4.05 = 4.989 ton
RA=-8.424 ton - 1.05 ton + 4.989 ton
RA= 4.485 ton
E=485-8.424-1.05 + 4.989 =0
SEGURIDAD..
PM1



$MA = (-8.937\ ton \cdot 2.10m) + (RB \cdot 4.20m)$

$MA = -18.767 + RB \cdot 4.20$

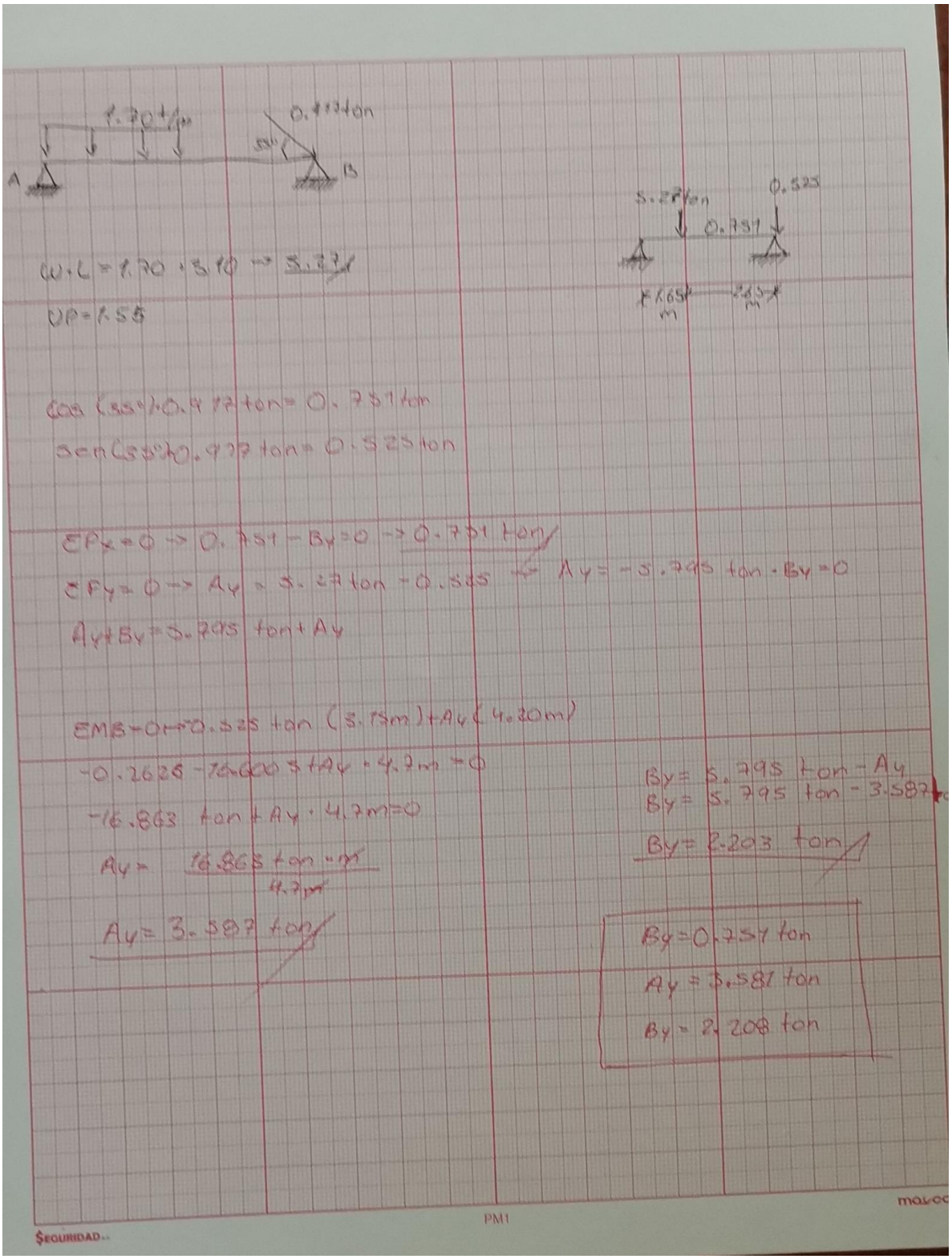
$RB = \frac{18.767}{4.20} = 4.468$

$RB = 4.468\ ton$

$RA = 4.468\ ton - 8.937\ ton = 0$

$RA = 4.469\ ton$

$\Sigma = 4.468 - 8.937 + 4.469 = 0$


1.70 ton/m
0.477 ton
55°
A
B
5.27 ton
0.525
0.751
4.65 m
2.65 m
W+L = 1.70 + 3.10 → 5.27
UP = 1.55
Cos (55°) 0.477 ton = 0.751 ton
Sen (55°) 0.477 ton = 0.525 ton
ΣFx = 0 → 0.751 - Bx = 0 → 0.751 ton
ΣFy = 0 → Ay + 5.27 ton - 0.525 → Ay = -5.795 ton - By = 0
Ay + By = 5.795 ton + Ay
ΣMB = 0 → +0.525 ton (5.75m) + Ay (4.20m)
-0.2626 - 16.863 + Ay · 4.7m = 0
-16.863 ton + Ay · 4.7m = 0
Ay = 16.863 ton · m / 4.7m
Ay = 3.587 ton
By = 5.795 ton - Ay
By = 5.795 ton - 3.587
By = 2.203 ton
By = 0.751 ton
Ay = 3.581 ton
By = 2.208 ton
PM1
SEGURIDAD