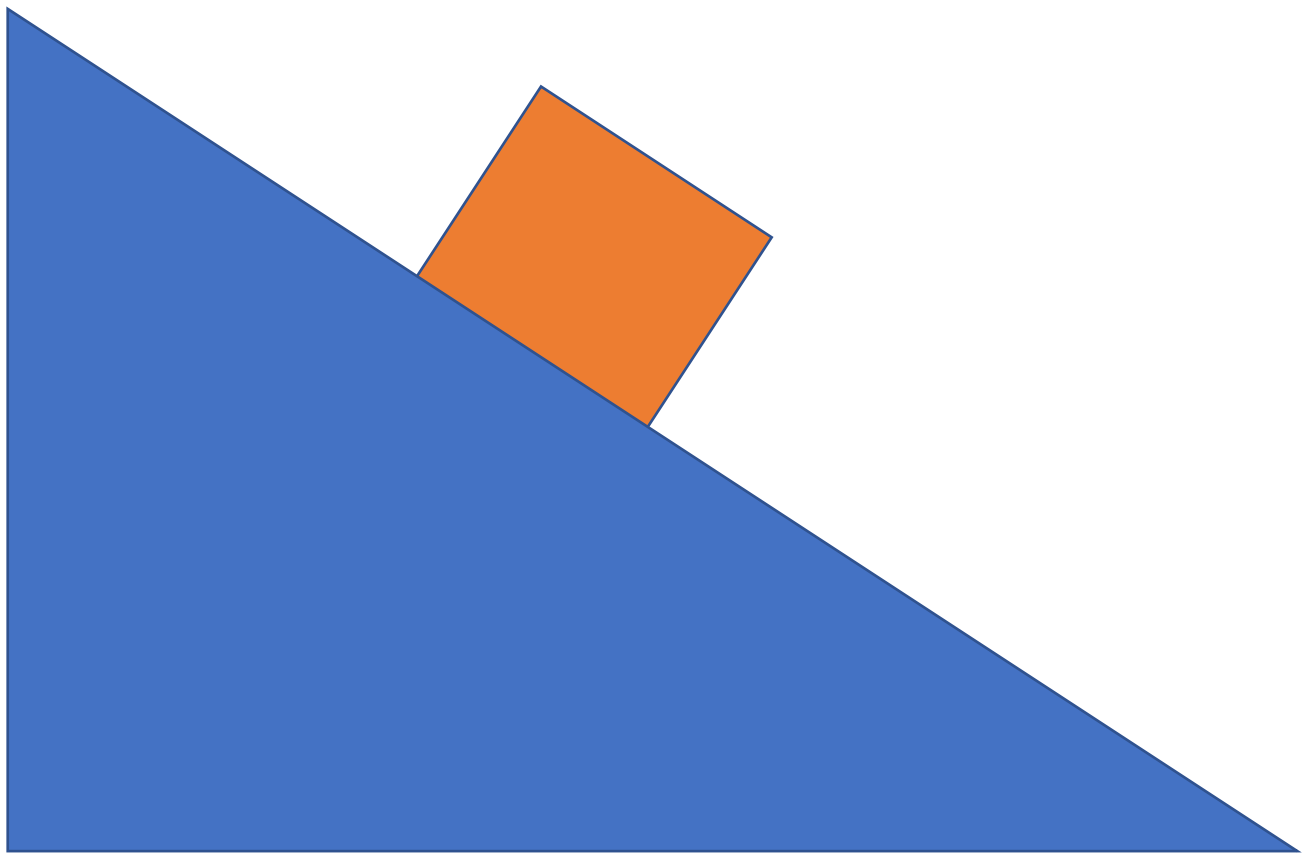
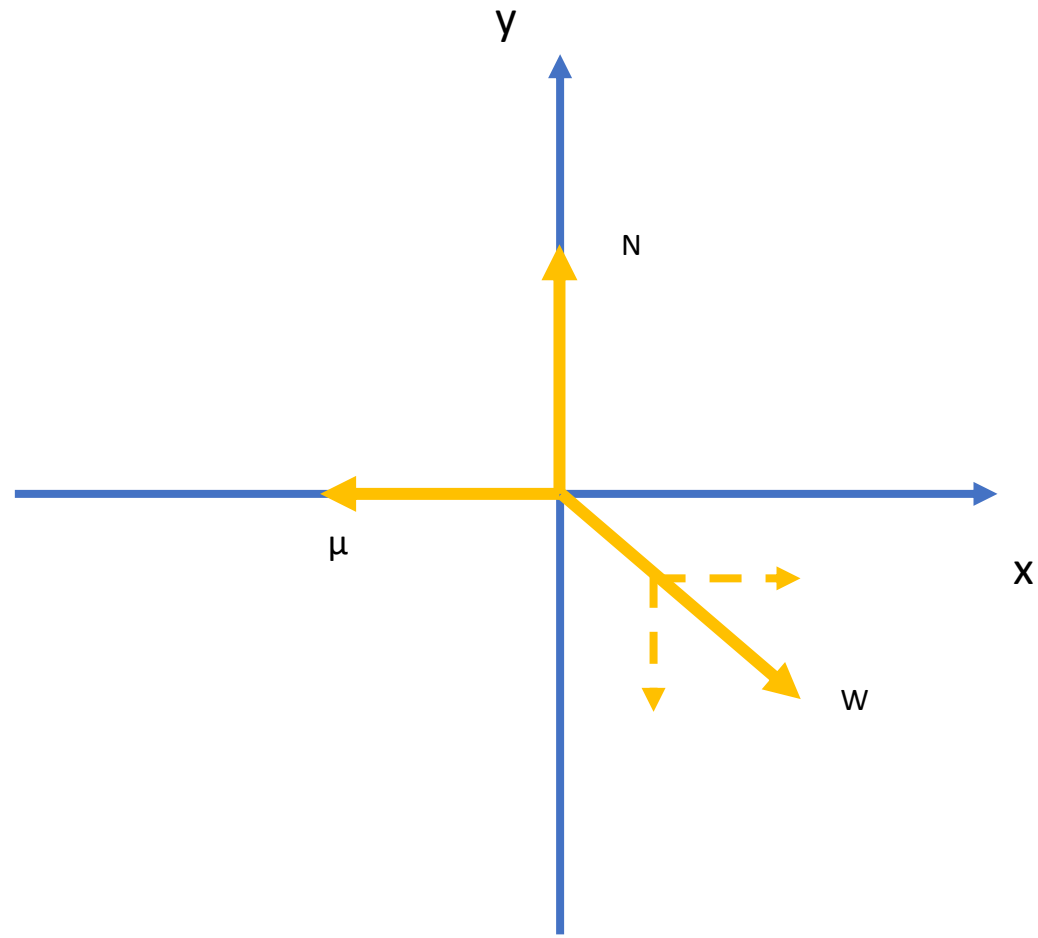
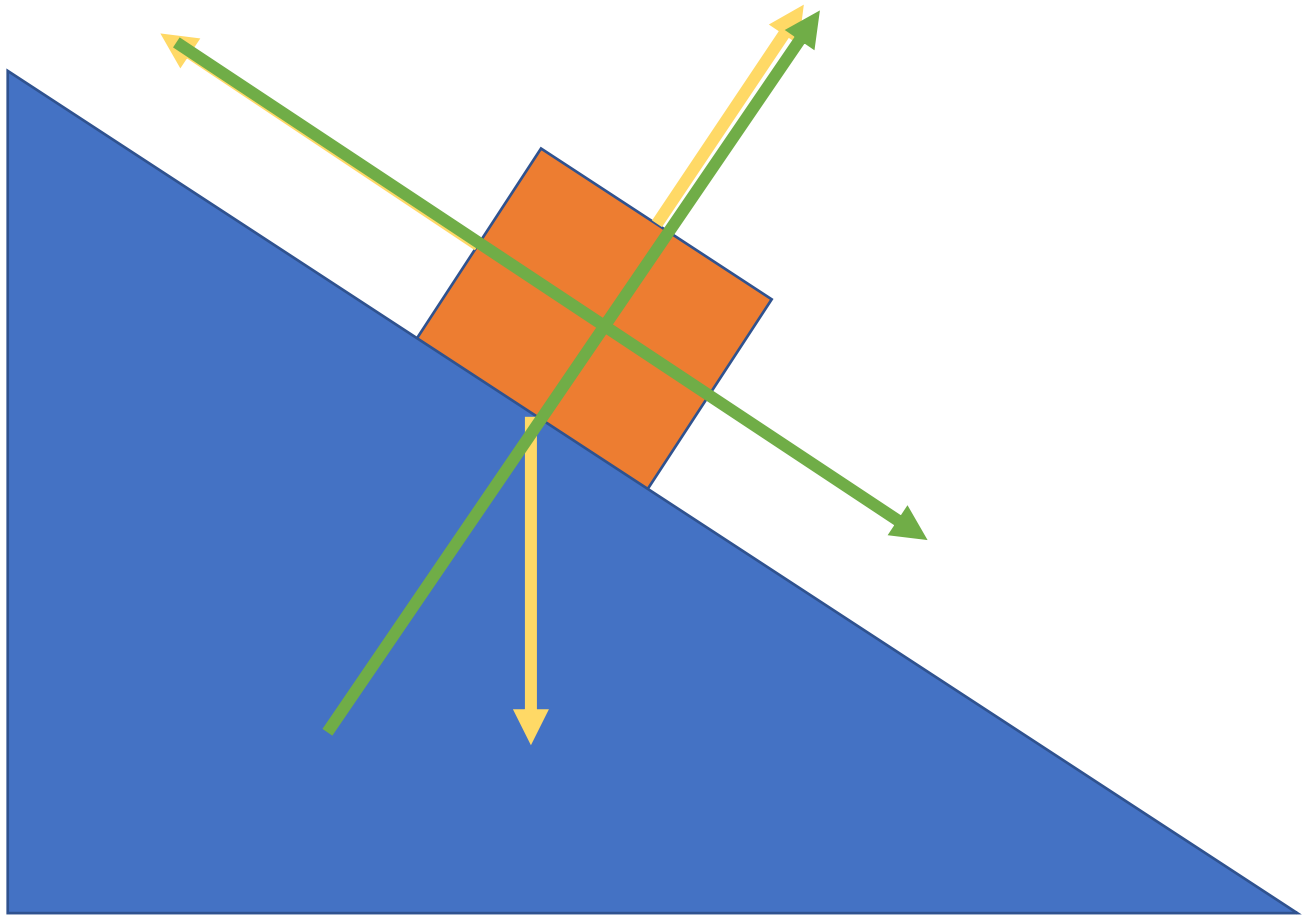
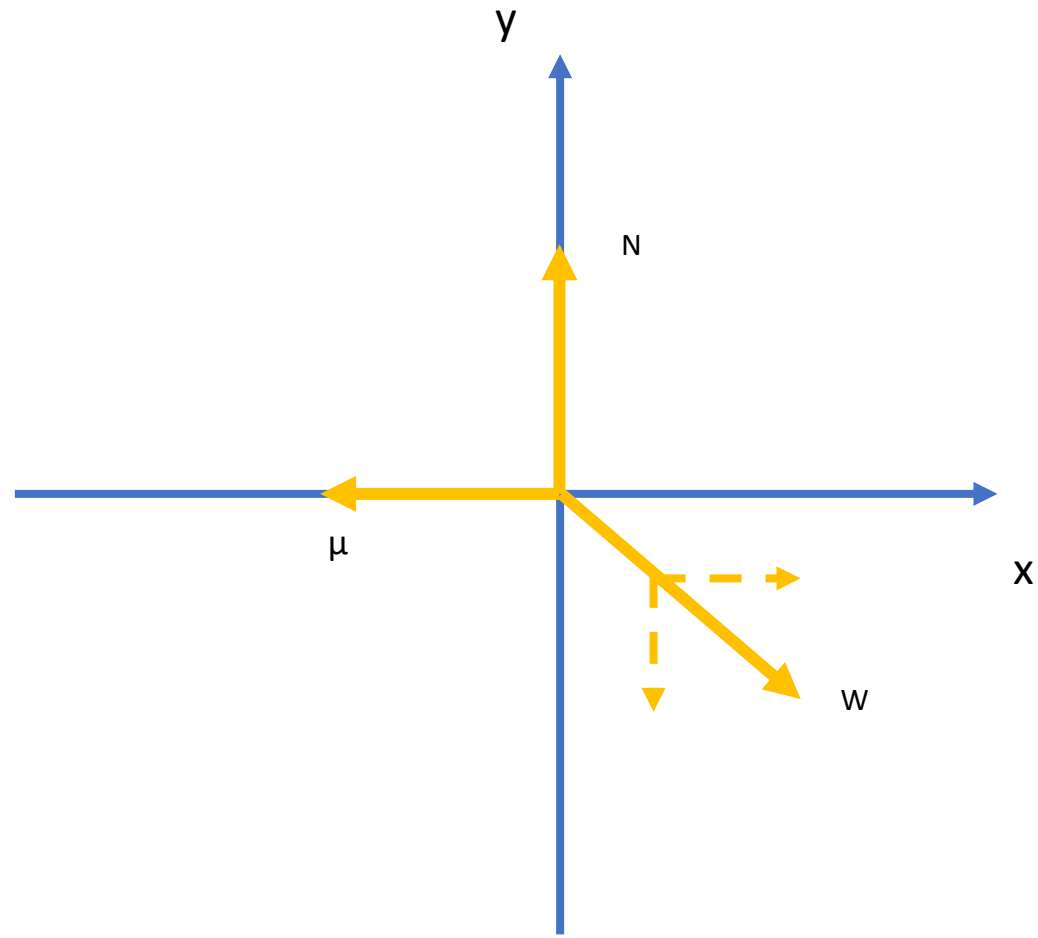
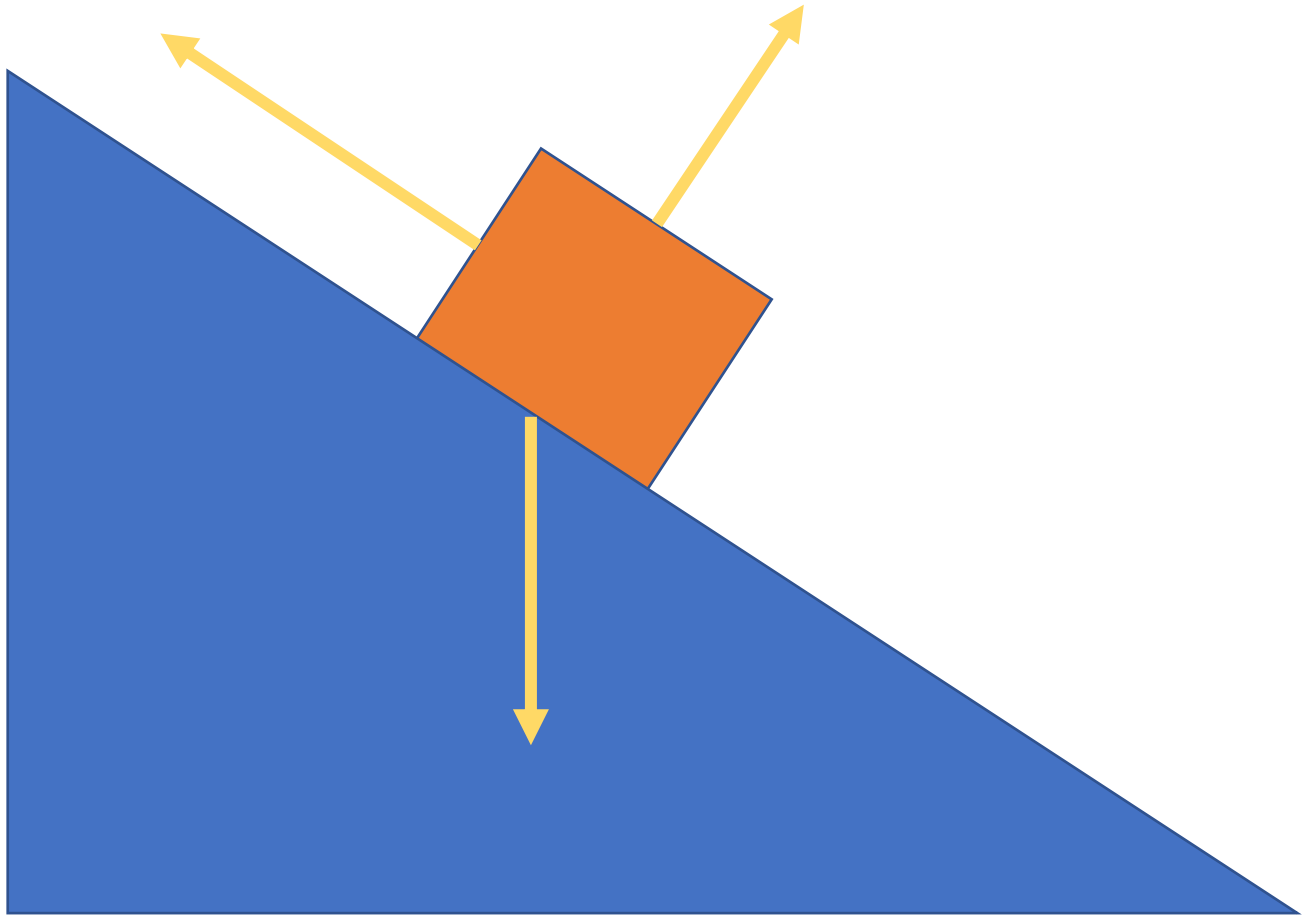
Plano Inclinado

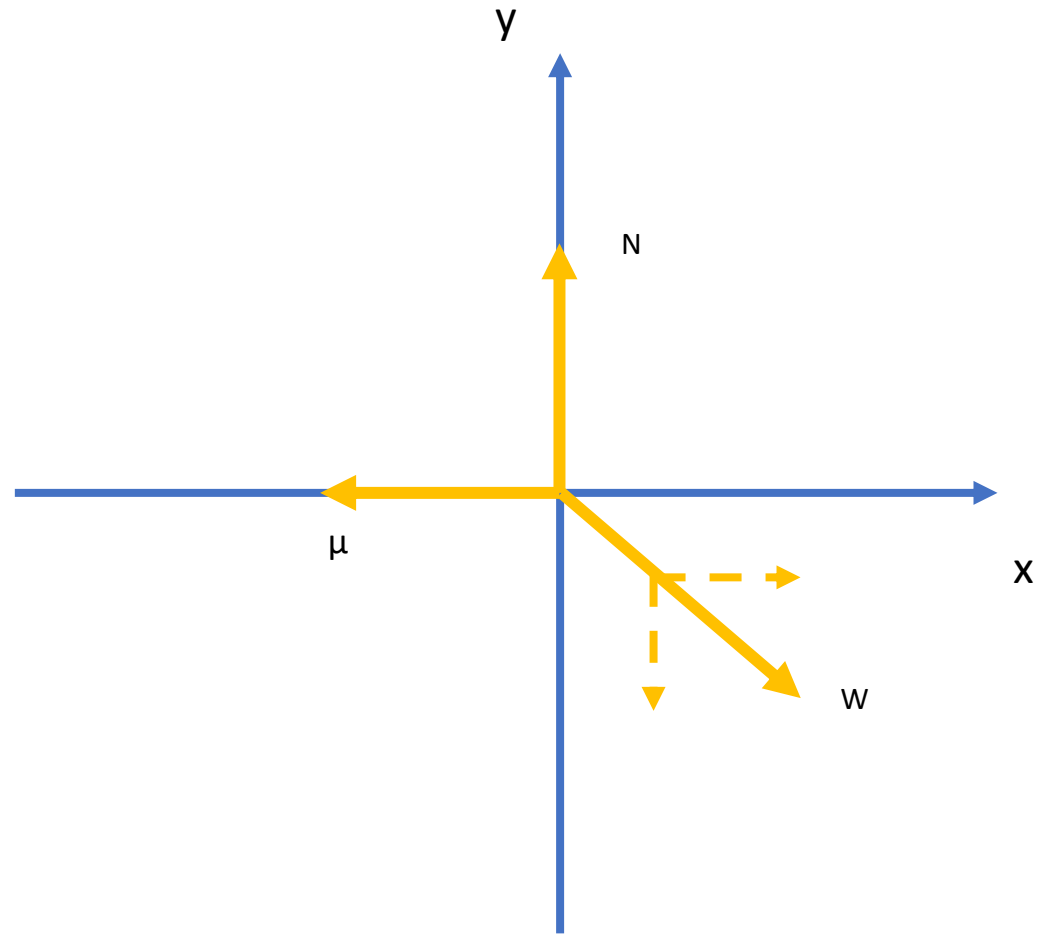


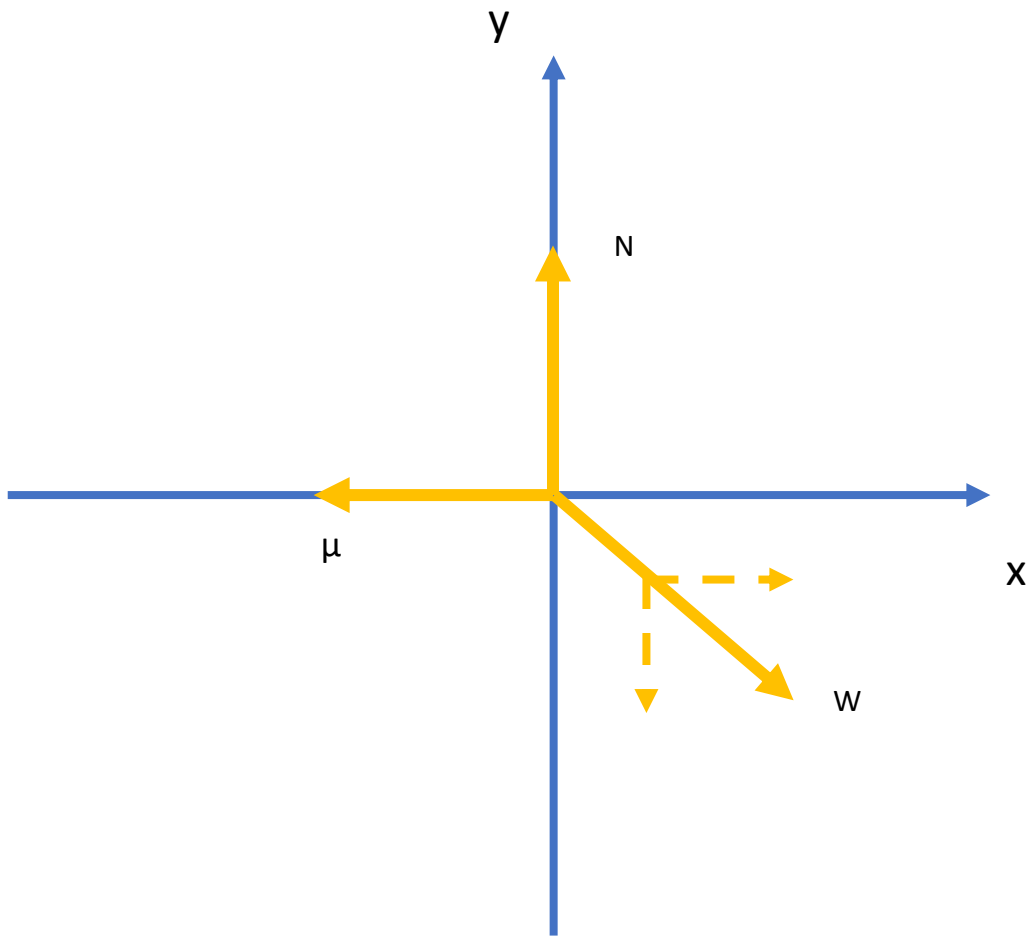

y
N
μ
x
W

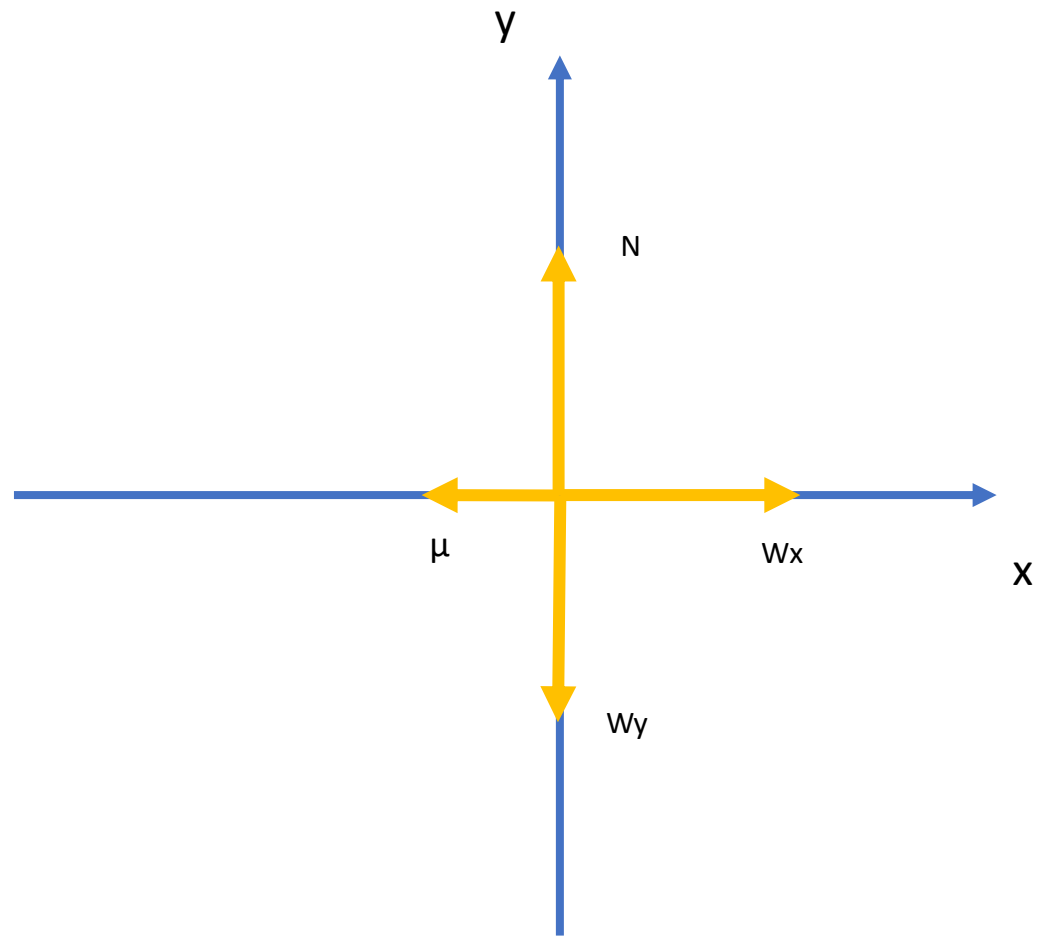



y
N
μ
x
W



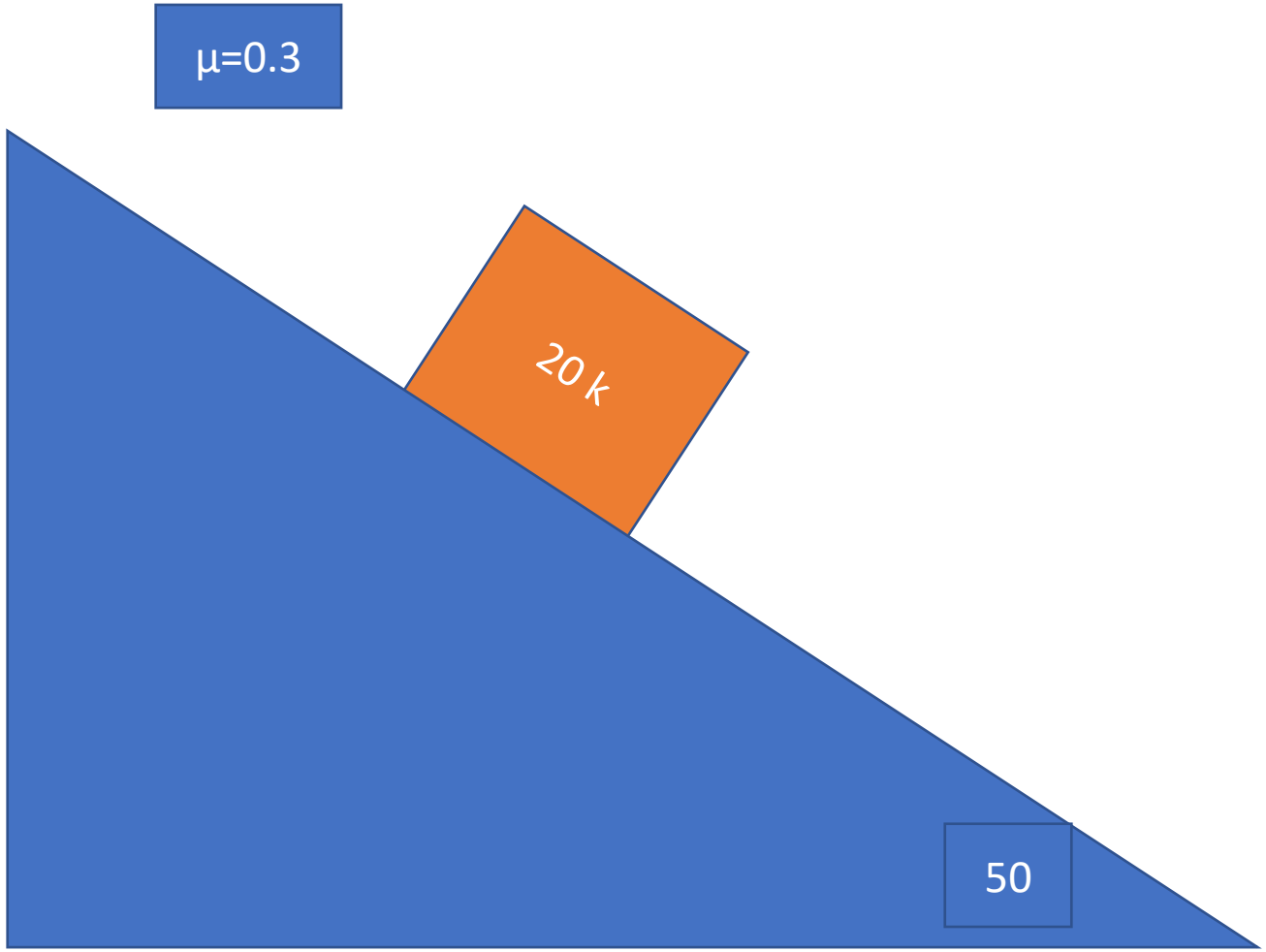

y
N
μ
x
W



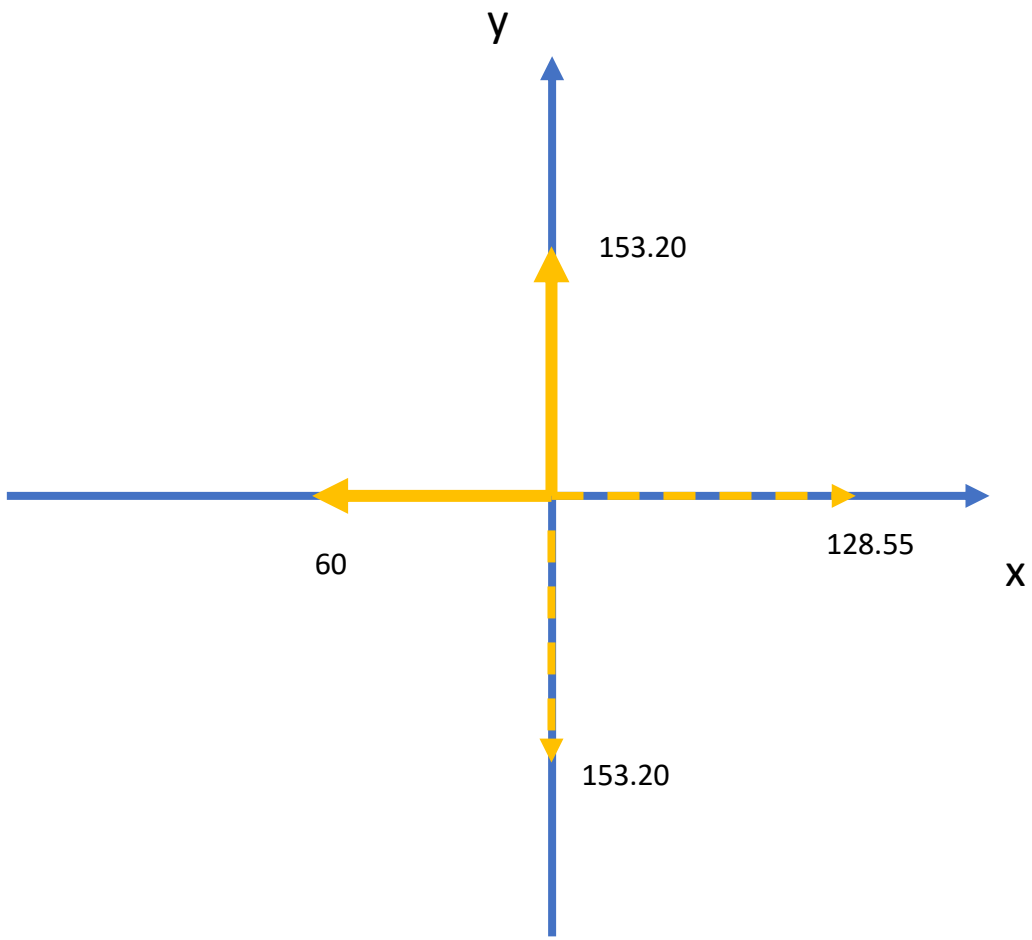


N=Wy

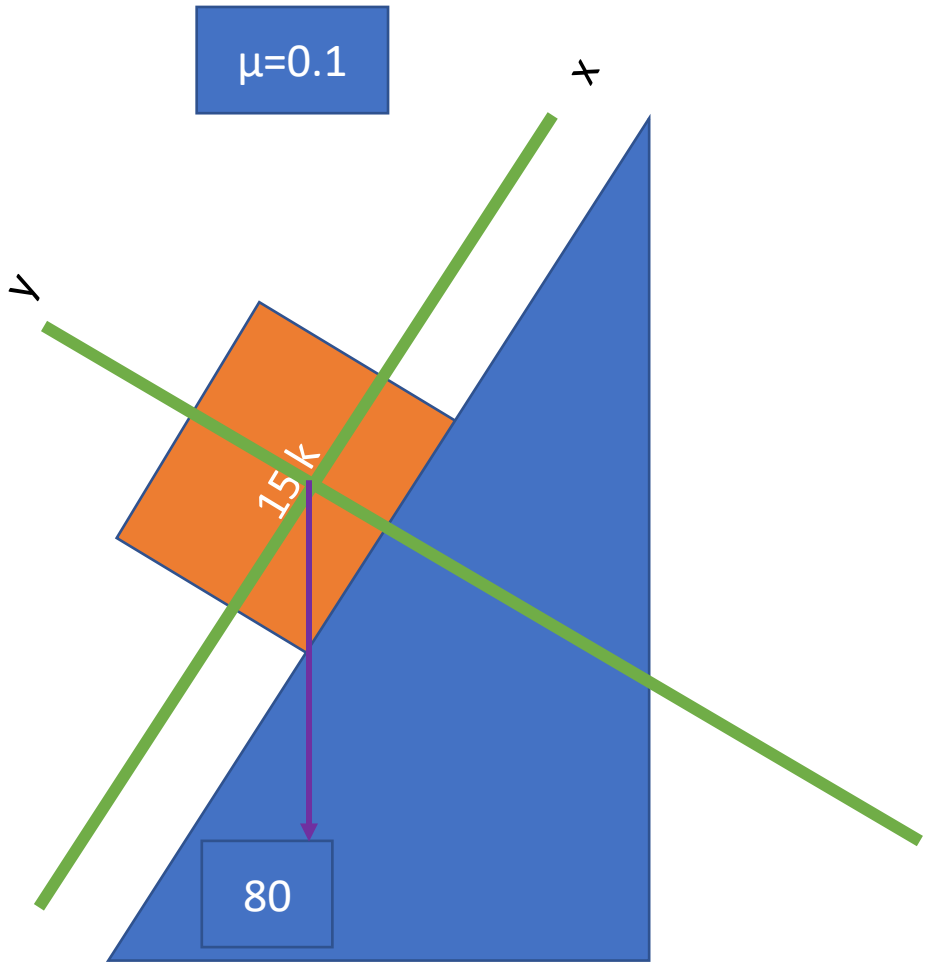
F=ma



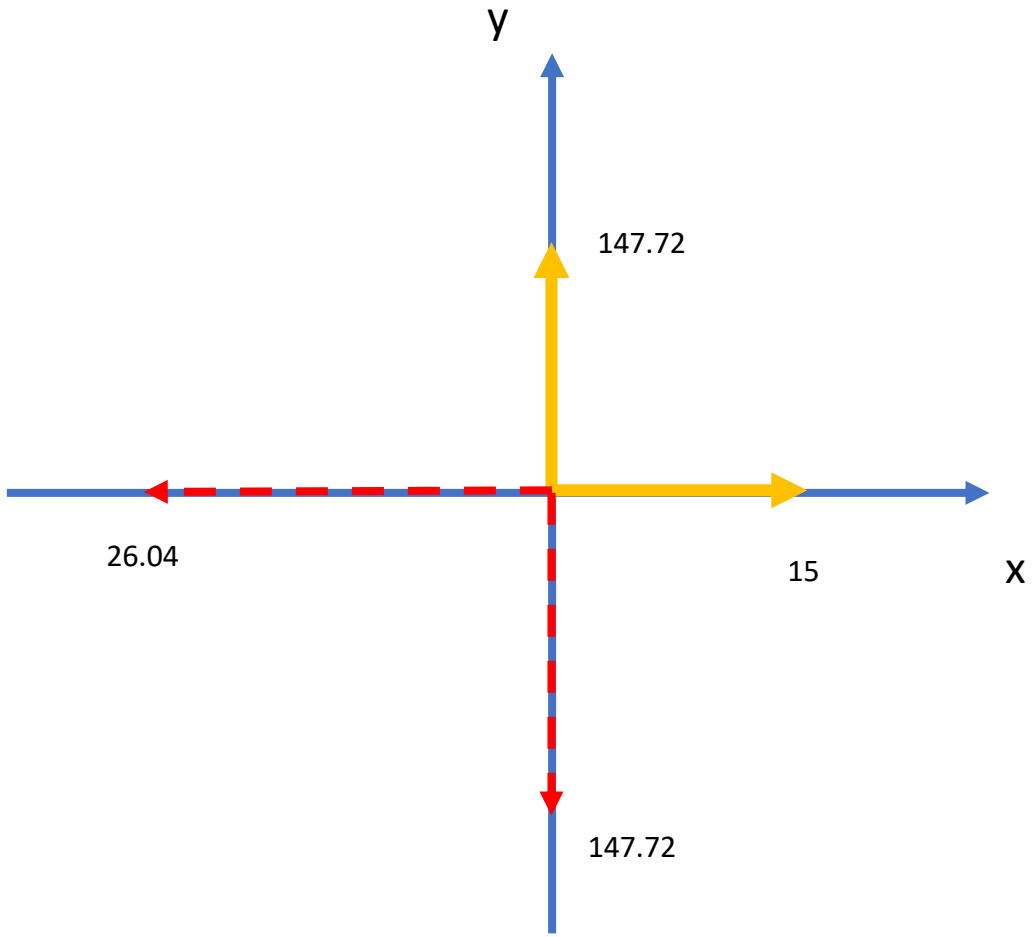
Wx=200cos(50)=128.55
Wy=200sen(50)=153.20



F=ma
-60 + 128.55 = 20 a
68.55 = 20 a
a = 68.55/20
a = 3.4275

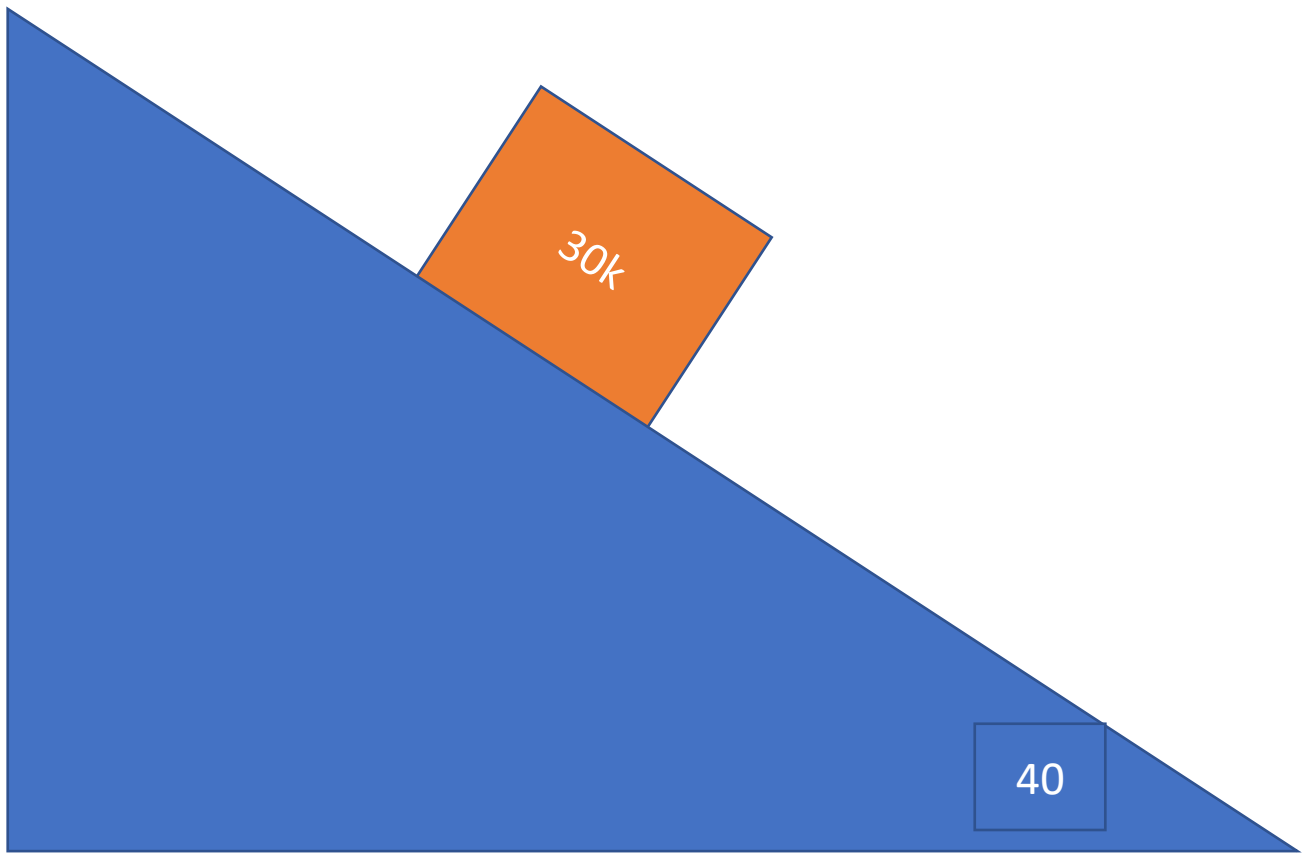


Wx= 150cos(80) = 26.04
Wy= 150sen(80) = 147.72

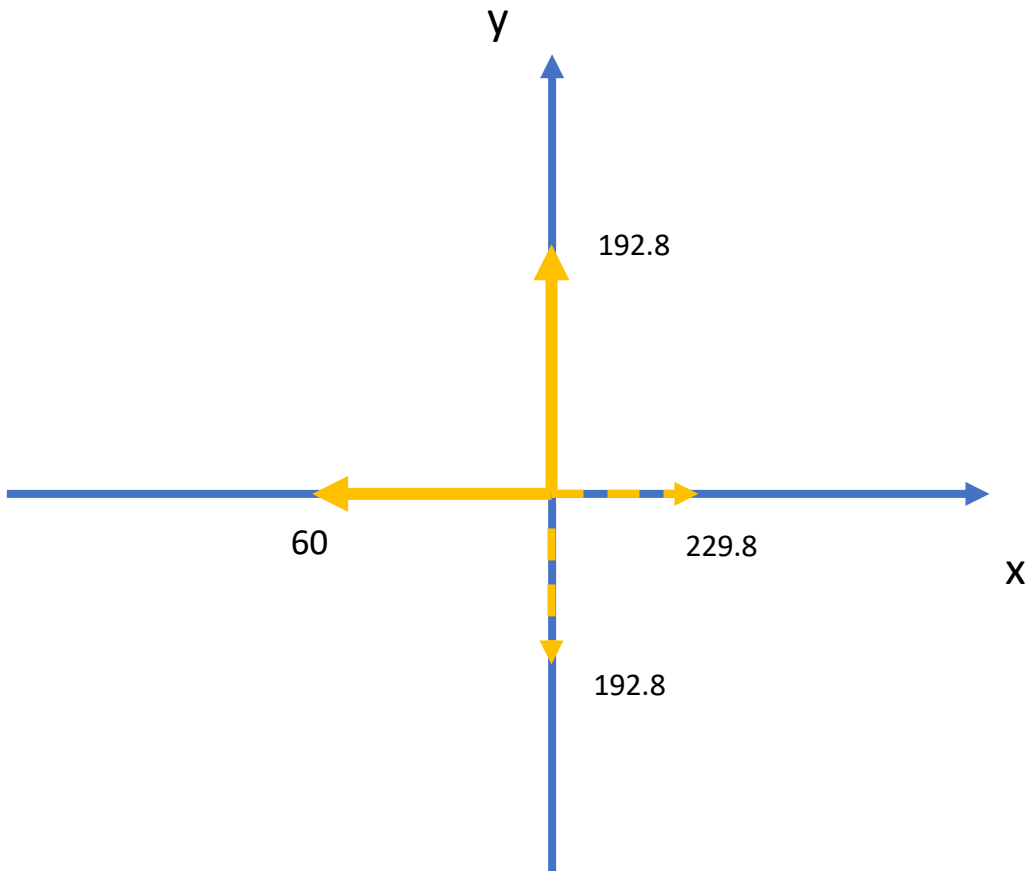


F=ma
26.04-15=15a
11.04=15a
a=11.04/15
a=0.736

μ=0.2

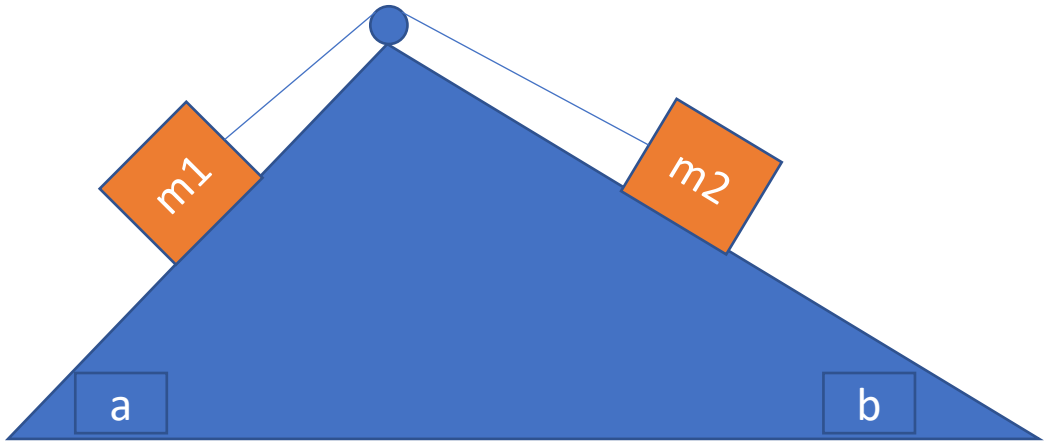


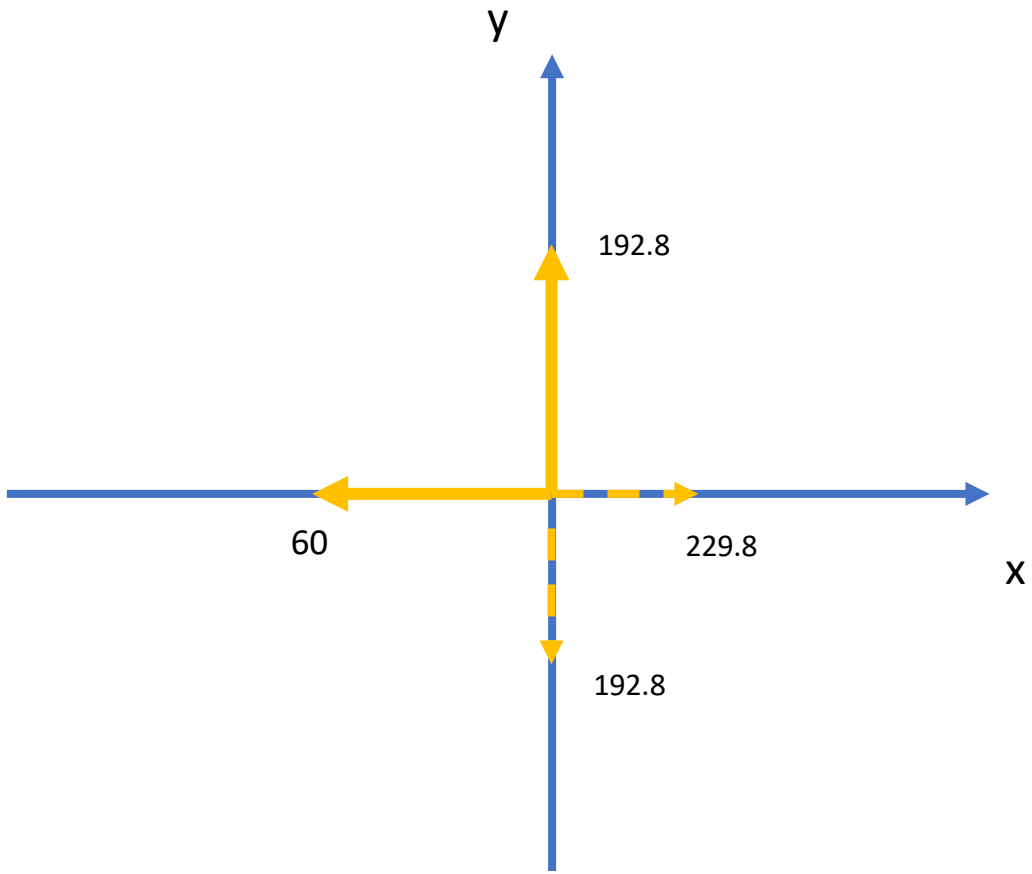
Wx = 300 cos(40) = 229.8
Wy = 300 sen(40) =192.8



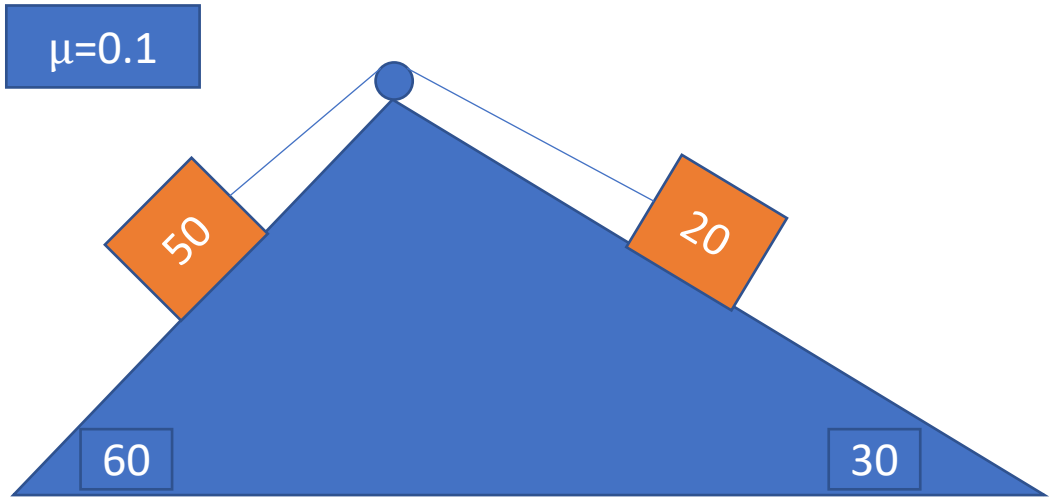
F=ma
229.8-60 = 30 a
169.8 = 30 a
30 a = 169.8
a = 169.8/30
a = 5.66

Sistema de Planos Inclinados





F=ma
229.8-60 = 30 a
169.8 = 30 a
30 a = 169.8
a = 169.8/30
a = 5.66



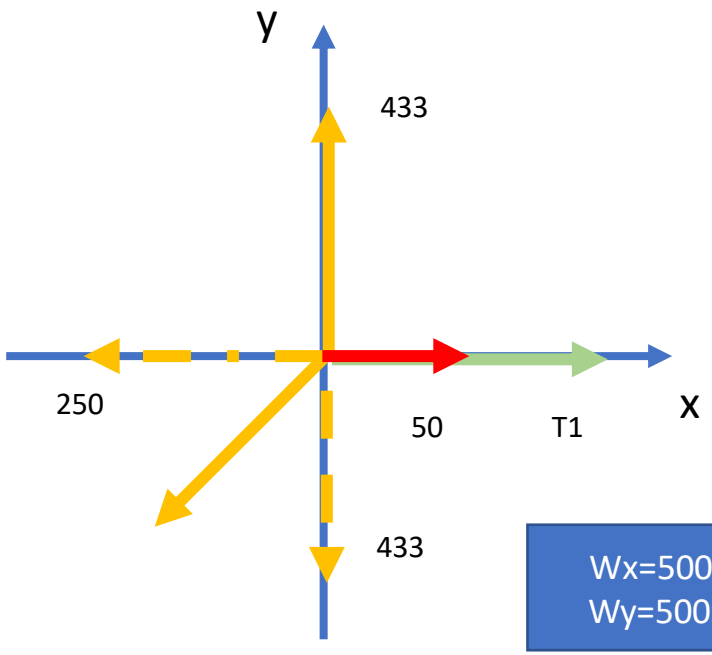
Bloque 50

F=ma
250-50-T1=50a
200-T1=50a

Bloque 20

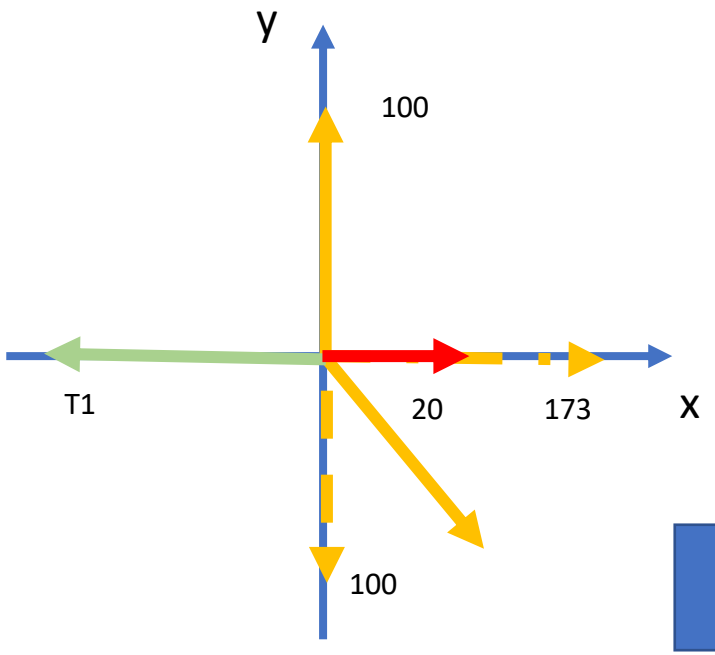
F=ma
T1-20-173=20a
T1-193=20a

Bloque 50



Wx=500cos(60)=250
Wy=500sen(60)=433

Bloque 20



Wx=200cos(30)=173
Wy=200sen(30)=100

Bloque 50

F=ma
250-50-T1=50a
200-T1=50a

Bloque 20

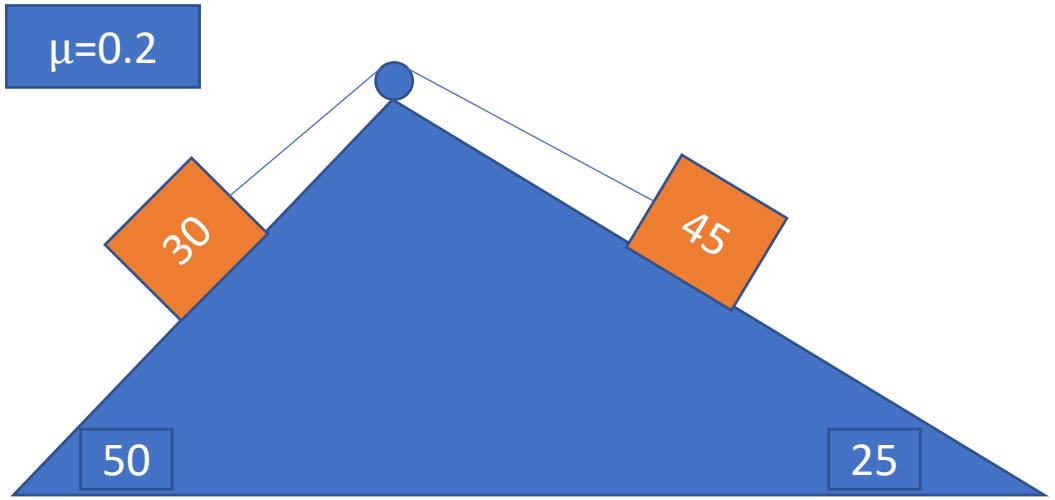
F=ma
T1-20-173=20a
T1-193=20a

$$\begin{cases} 200 - T = 50a \\ T - 193 = 20a \end{cases}$$

T=200-50a
T=193+20a

200-50a=193+20a
-50a-20a=193-200
-70a = -7
a= -7/-70
a=0.1

T=200-50a
T=200-50(0.1)
T=200-5
T=195



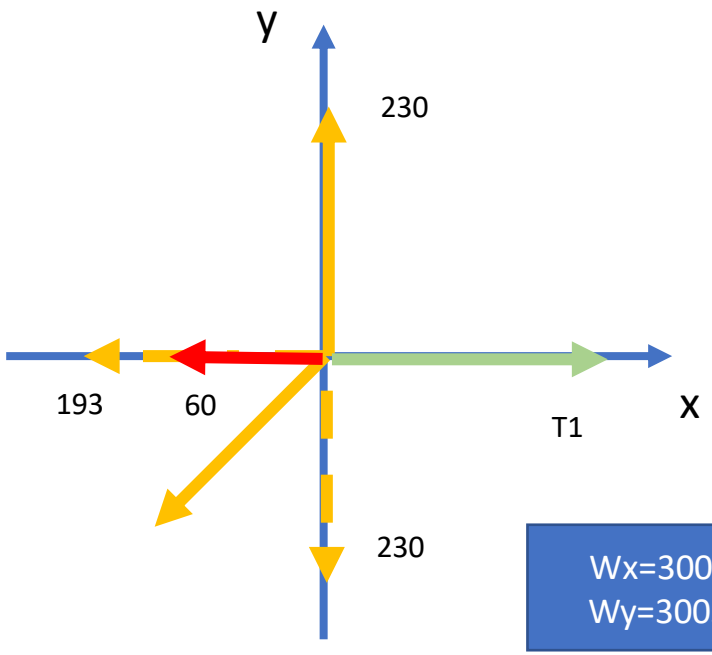
Bloque 30

F=ma
T – 60 – 193 = 30 a
T - 253 = 30 a

Bloque 45

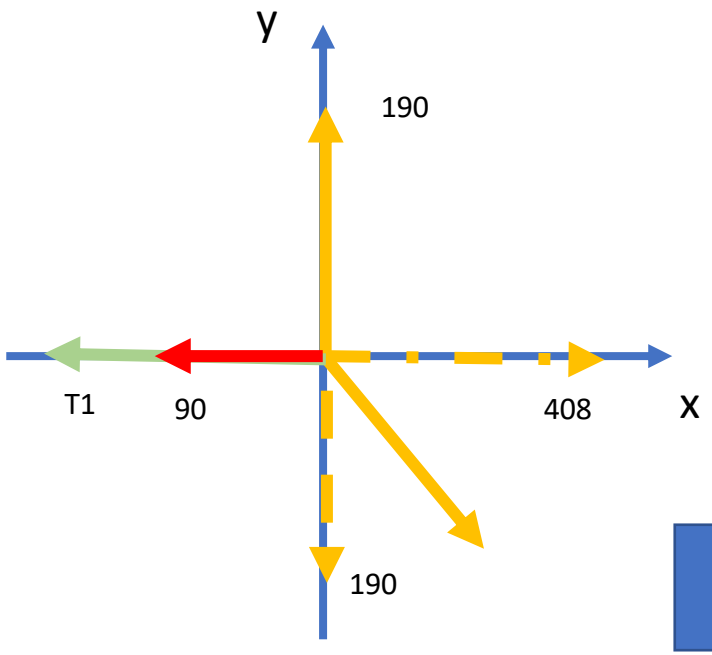
F=ma
408 – 90 - T = 45 a
318 - T = 45 a

Bloque 30



Wx=300cos(50)=193
Wy=300sen(50)=230

Bloque 45



Wx=450cos(25)=408
Wy=450sen(25)=190

Bloque 50

Bloque 20

F=ma
T – 60 – 193 = 30 a
T - 253 = 30 a

F=ma
408 – 90 - T = 45 a
318 - T = 45 a

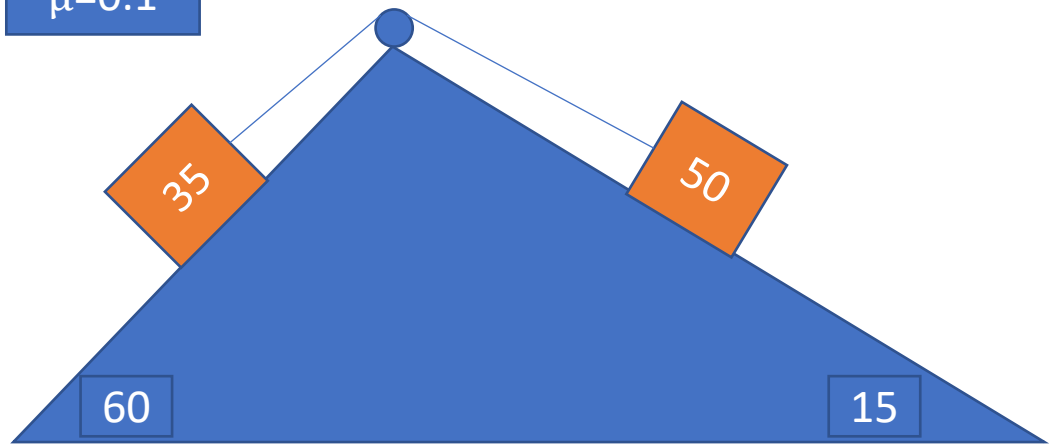
$$\begin{cases} 318 - T = 45a \\ T - 253 = 30a \end{cases}$$

T=318-45a
T=253+30a

318 – 45 a = 253 + 30 a
-45 a – 30 a = 253 – 318
-75 a = -65
a = 65/75
a = 0.866

T=318-45a
T=318-45(0.866)
T=318-39
T=279

μ=0.1



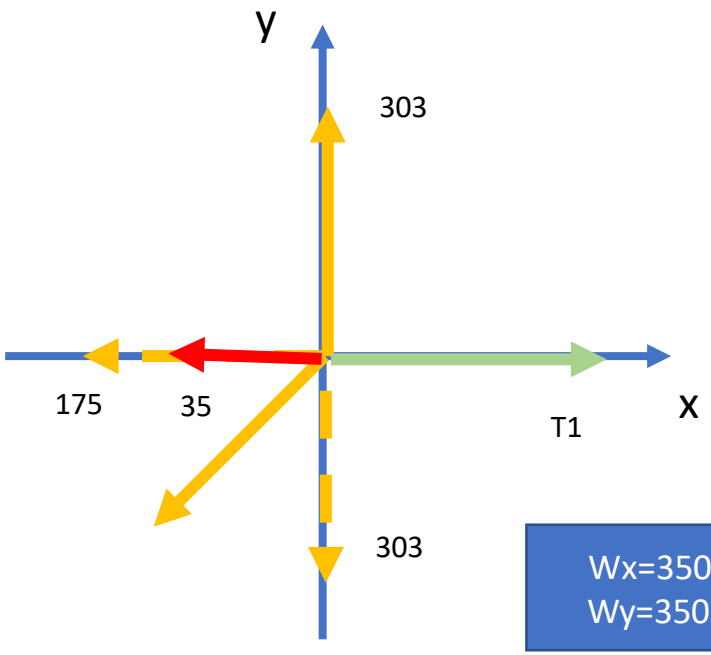
Bloque 35

F=ma
T – 175 - 35 = 35 a
T - 210 = 35 a

Bloque 50

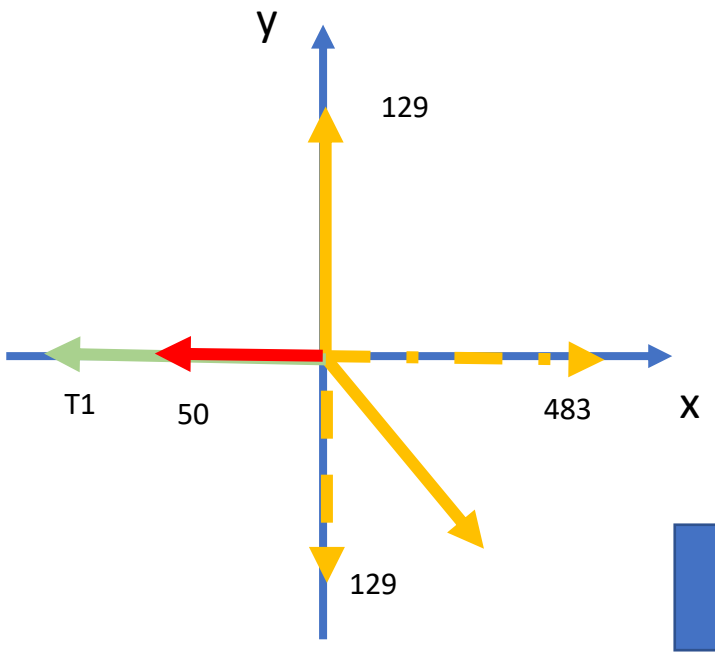
F=ma
483 - T – 50 = 50 a
433 - T = 50 a

Bloque 35



Wx=350cos(60)=175
Wy=350sen(60)=303

Bloque 50



Wx=500cos(15)=483
Wy=500sen(15)=129

Bloque 35

F=ma
T – 175 - 35 = 35 a
T - 210 = 35 a

Bloque 50

F=ma
483 - T – 50 = 50 a
433 - T = 50 a

$$\begin{cases} 433 - T = 50a \\ T - 210 = 35a \end{cases}$$

T = 433 – 50 a
T = 35 a + 210

433 – 50 a = 35 a + 210
- 50 a – 35 a = 210 – 433
- 85 a = - 223
a = - 223 / -85
a = 2.62

T – 210 = 35 (2.62)
T – 210 = 91.7
T = 301.7