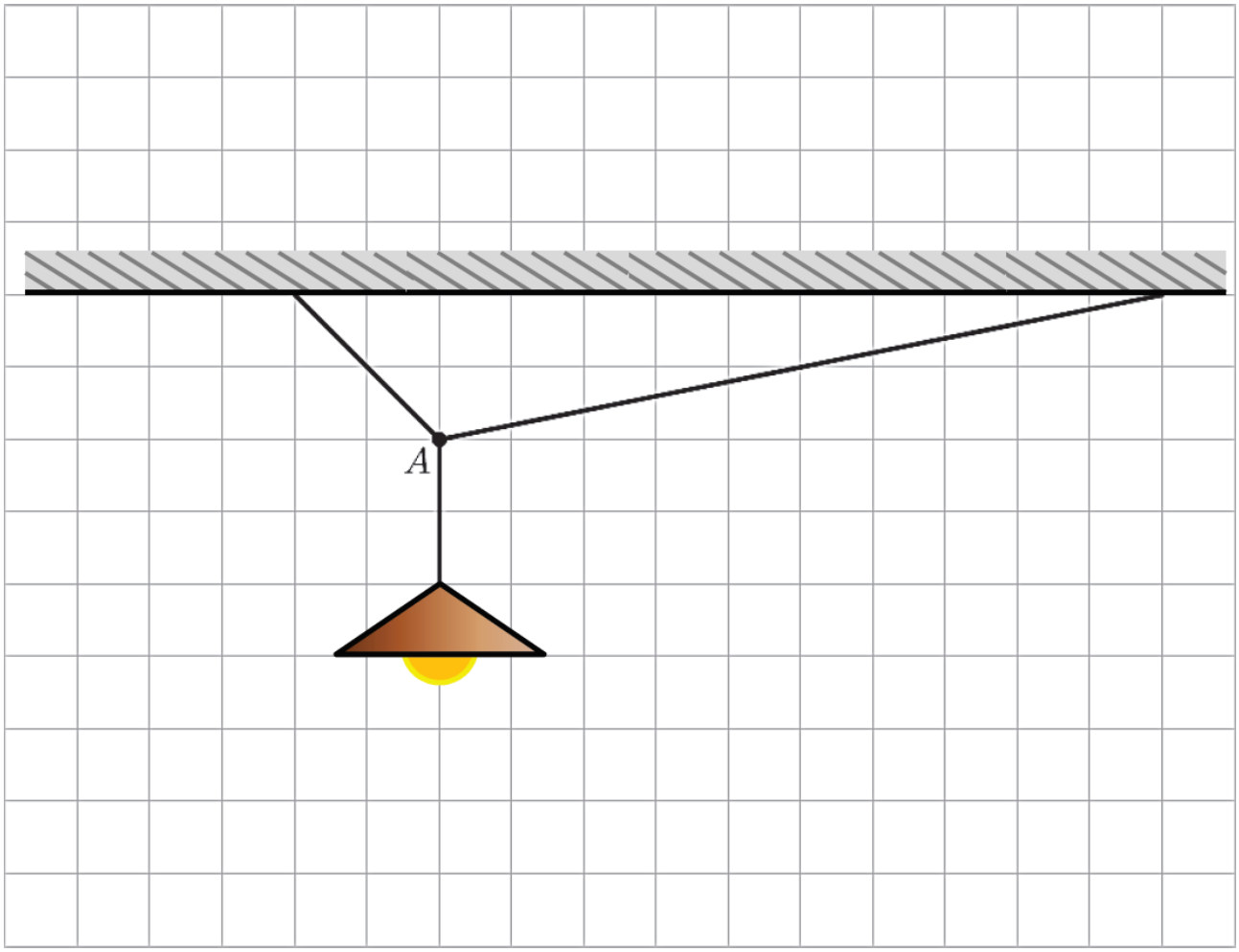
Nom : _____ PHYS 11

TEST 1	Forces, résultante et équilibre

Le Châtelard

Exercice 1 (6 points) The system represented below is in equilibrium. The goal is to draw the three forces acting on point A and to determine their intensity.



a) Draw the weight $\overrightarrow{F_1}$ of the lamp, knowing that its intensity is 6 N and that 1 square represents 1 N.

b) Draw the « anti-weight » opposite to $\overrightarrow{F_1}$ acting on point A.

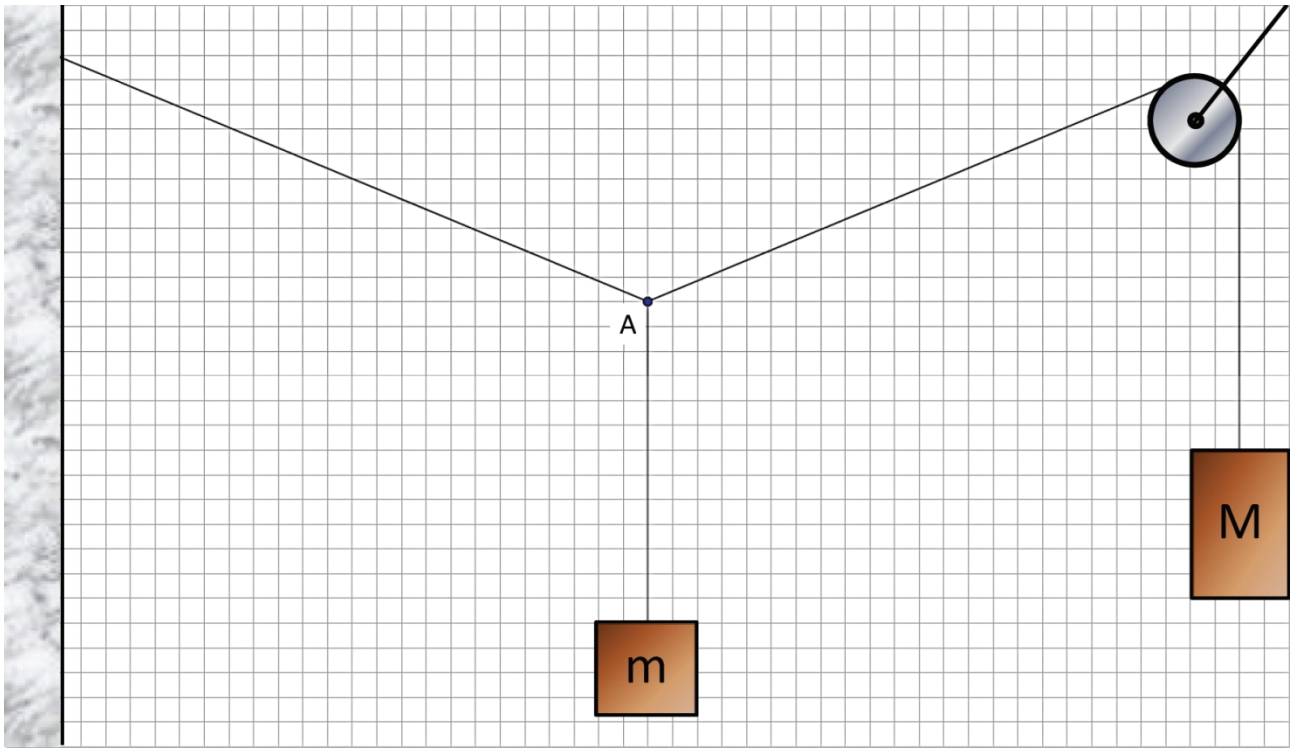
c) Draw the « parallelogram of the forces » and the two forces $\overrightarrow{F_2}$ and $\overrightarrow{F_3}$ that act each on a wire.

d) What is the intensity of F_2?

e) What is the intensity of F_3?

f) Which wire is more likely to break first?

Exercice 2 (6 points) The system represented below is in equilibrium. The goal is to draw the three forces acting on point A and to determine their intensity.



a) Draw the weight $\overrightarrow{F_1}$ of small mass m, knowing that its intensity is 10 N and that 1 square represents 1 N.

b) Draw the « anti-weight » opposite to $\overrightarrow{F_1}$ acting on point A.

c) Draw the « parallelogram of the forces » and the two forces $\overrightarrow{F_2}$ and $\overrightarrow{F_3}$ that act each on a wire.

d) What is the intensity of F_2?

e) What is the intensity of F_3?

f) What is the weight of big mass M?