

Name : _____

PHYS 11



Mock Test 2

Problèmes typiques de MRU

		Vector		
Velocity	Position	Displacement	Velocity	Position
$v = \frac{d}{t}$	$x = vt + x_0$	$\vec{\Delta x} = \vec{x}_B - \vec{x}_A$	$\vec{v} = \frac{\vec{\Delta x}}{\Delta t}$	$\vec{x} = \vec{v} \cdot t + \vec{x}_0$

Exercise 1 A **tiger** runs against a hunter at a velocity of **60 km/h**. While the tiger is **92 m** from him, the hunter fires a bullet whose velocity is **750 m/s**.



a) Express the **position x_B** of the rifle bullet.

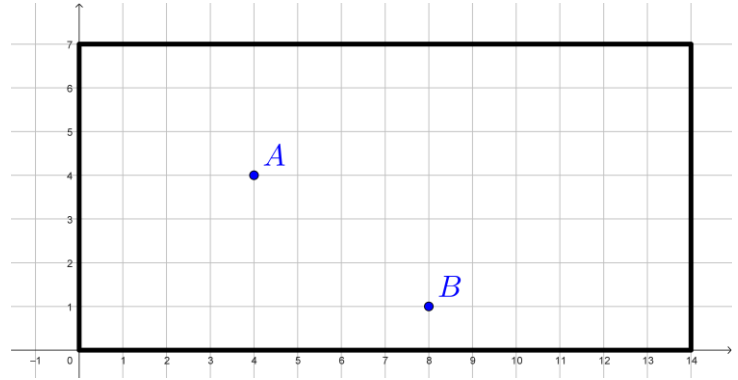
b) Express the **position x_T** of the tiger.

c) **Which equation** will be verified when the ball reaches the tiger?

d) **How long** after the start of the shot will the ball reach the tiger?

e) **How many meters** will the tiger travel before getting touched?

Exercise 2 A fly flies horizontally with a straight path and a constant velocity in the classroom shown opposite. It travels from point A to point B in 5 seconds.



a) Give the position $\vec{x}_A$ of point A .

b) Give the position $\vec{x}_B$ of point B .

c) Give the displacement $\vec{\Delta x}$ from A to B .

d) Give the velocity $\vec{v}$ of the fly.

e) Where is the fly 0.8 seconds after leaving point A ?

f) How long after leaving point A will it strike the wall?