

Exam: KINEMATICS

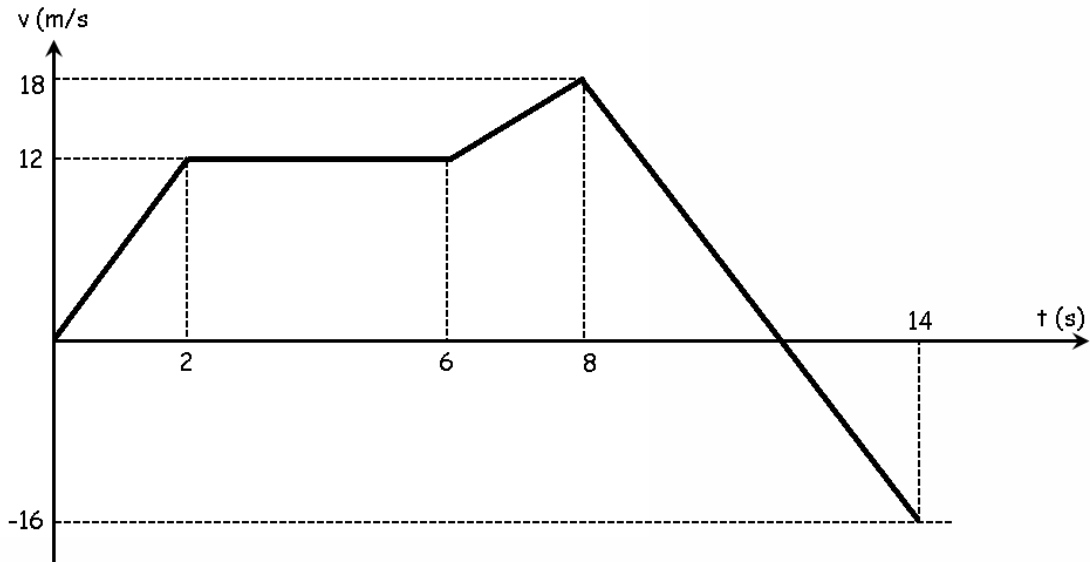
Name:

Course:

Exercise #1

In the motion depicted below, determine graphically

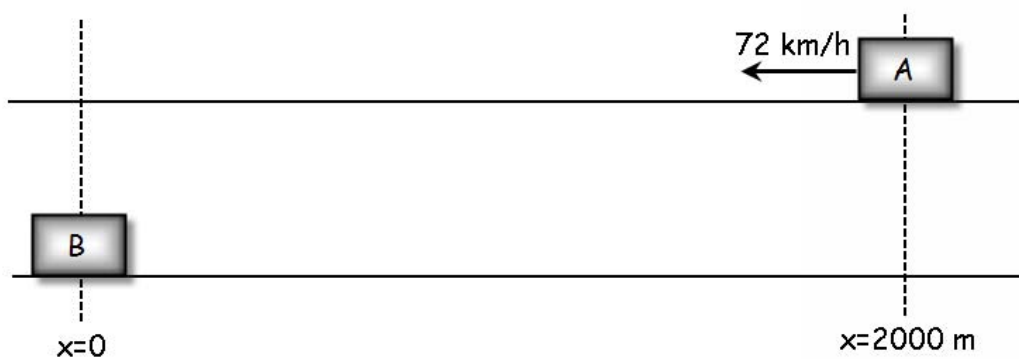
- the acceleration in each interval
- the displacement from $t=0$ to $t=14$ s
- the moment when the body stops



Exercise #2

"A" and "B" are moving according to the picture below. A moves at a constant speed of 72 km/h and B starts from rest and its acceleration is 2 m/s^2 . Determine:

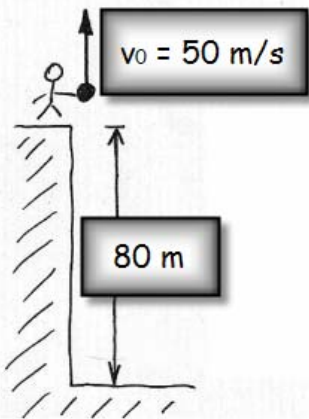
- the moment at which they cross each other
- the place of their encounter
- the velocity of each one when they are at the same place



Exercise #3

A ball is thrown upwards as described as described in the picture. Determine:

- the equation of the position vector
- the equation of the velocity
- the maximum height reached by the body
- the velocity (its vectorial expression) when the body hits the floor



Exercise #4

A ball is thrown horizontally, as shown in the graphic. Determine:

- the equation of position vector
- the maximum distance reached
- the equation of the trajectory
- the velocity (modulus and angle) when $t=1.5 \text{ s}$

