# Higher Physics Assessment 02A

1. During a space mission on a distant planet an astronaut throws a ball upwards. A motion sensor inside the ball collects data about its motion and downloads it to a laptop on the spaceship. The velocity time graph is displayed below.

   a. Calculate the acceleration experienced by the ball.

   b. Calculate the maximum height the ball reached.

   c. Find the time at which the ball bounced on the astronaut`s hand.

   d. Calculate the height of the ball`s bounce from the astronaut`s hand.
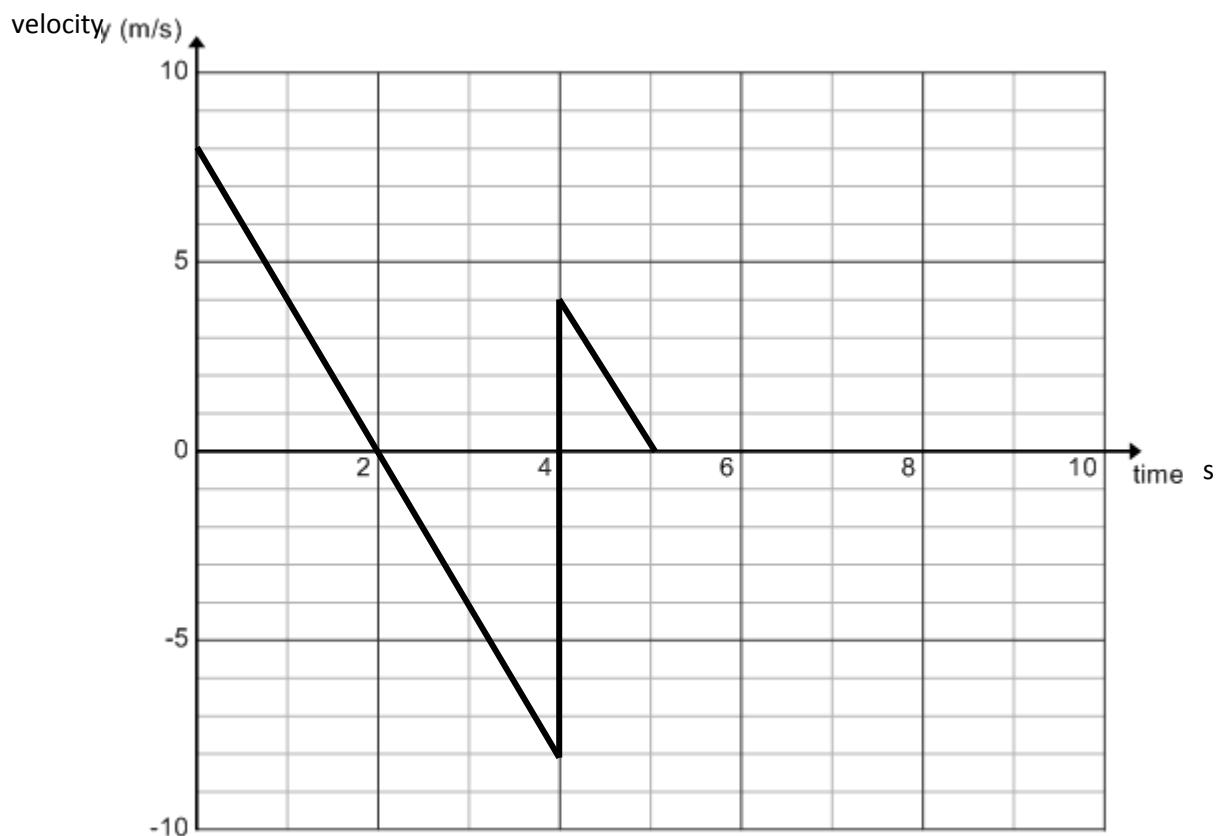
2. An orienteer walks 6km due east followed by 3km due south and then 5km due west.
   a. If the route is done in 3 hours find the average velocity of the orienteer(magnitude & direction)
   b. Calculate the magnitude and direction of the displacement vector which would take the orienteer back to the start.