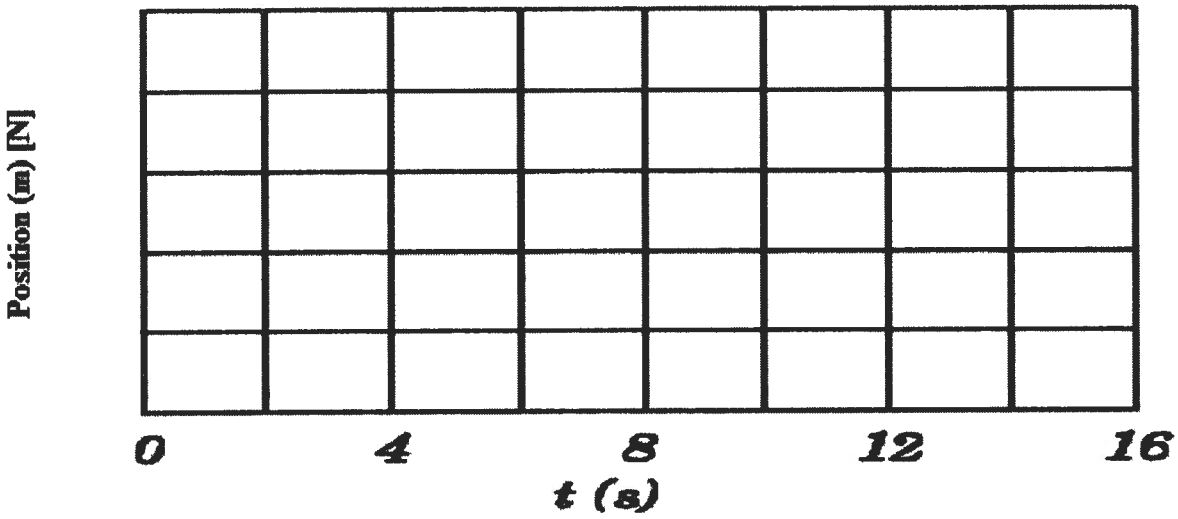
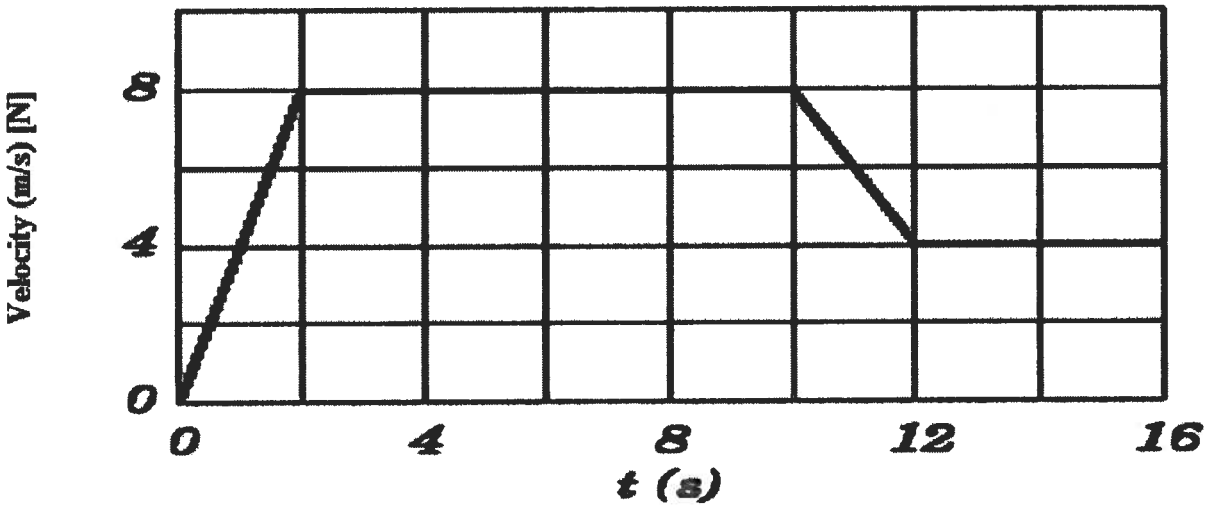
SPH4U0 **Graph Analysis Practice** Date:_____

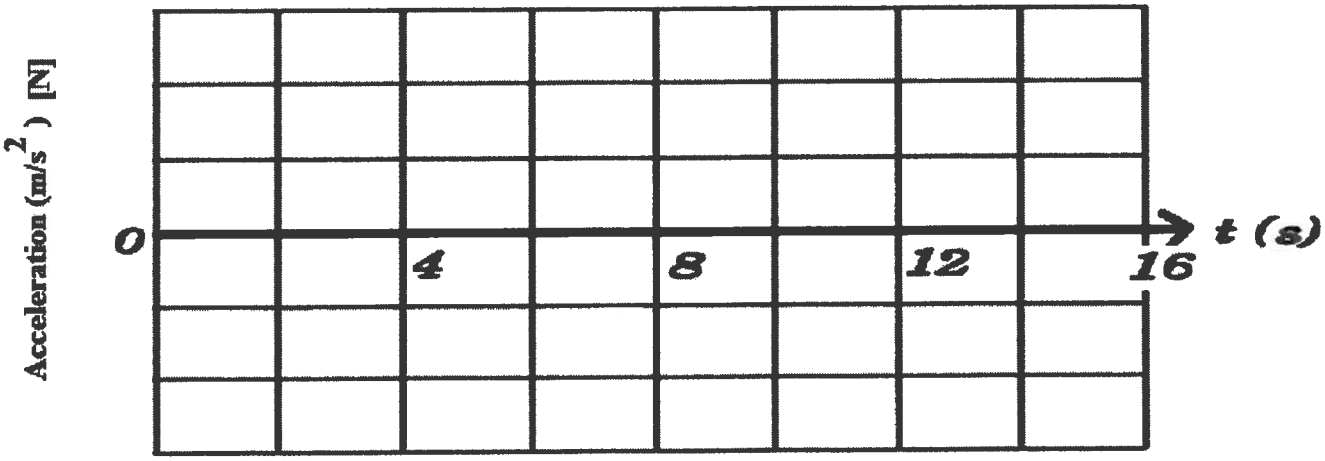
A sprinter running a training drill runs North along a straight track. She starts at the starting line or origin (position zero) at time zero. Her velocity-time graph is shown below.

a) Describe her motion.

b) Generate the corresponding acceleration-time graph and position-time graph on the grids below. Show your calculations on a separate page.







Solutions

SPH4U0

Graph Analysis Practice

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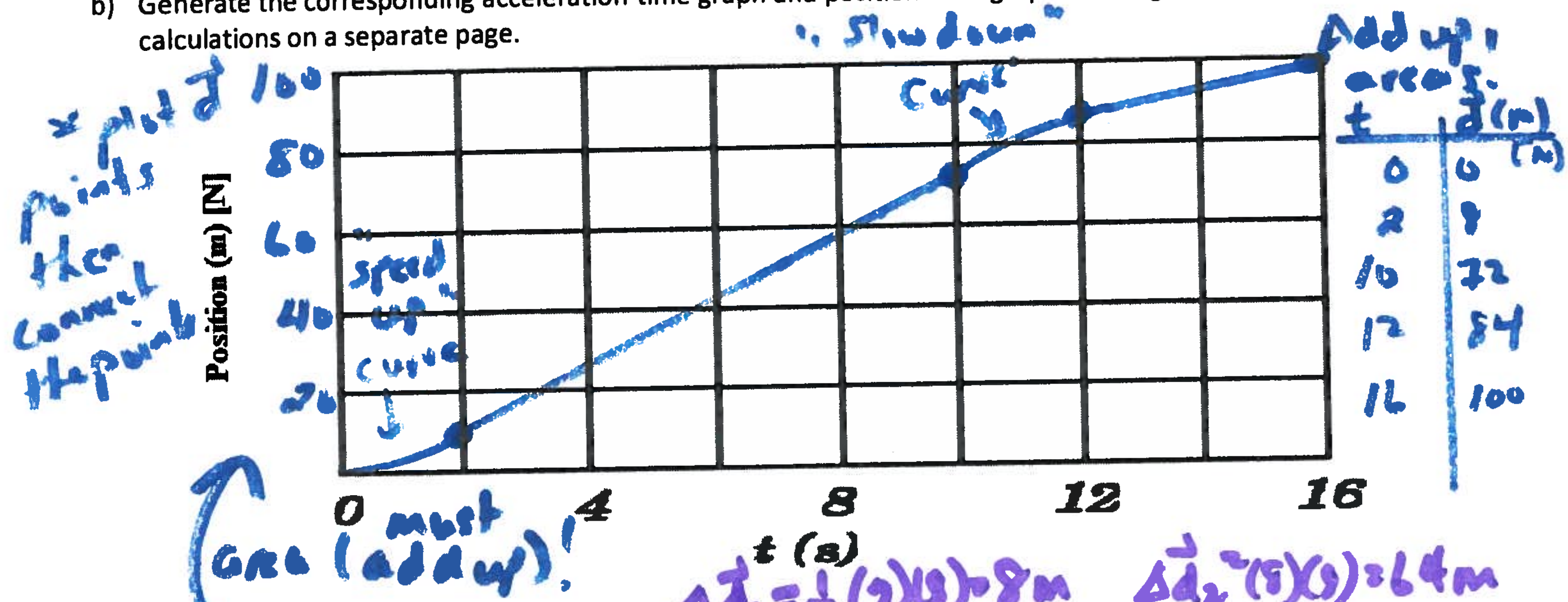

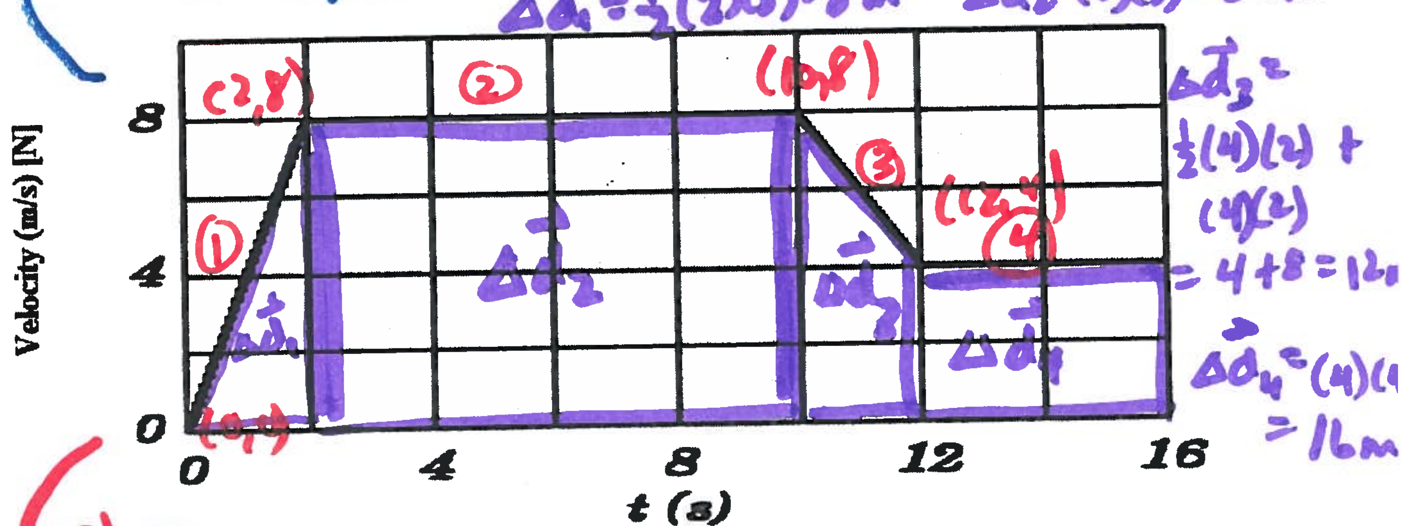

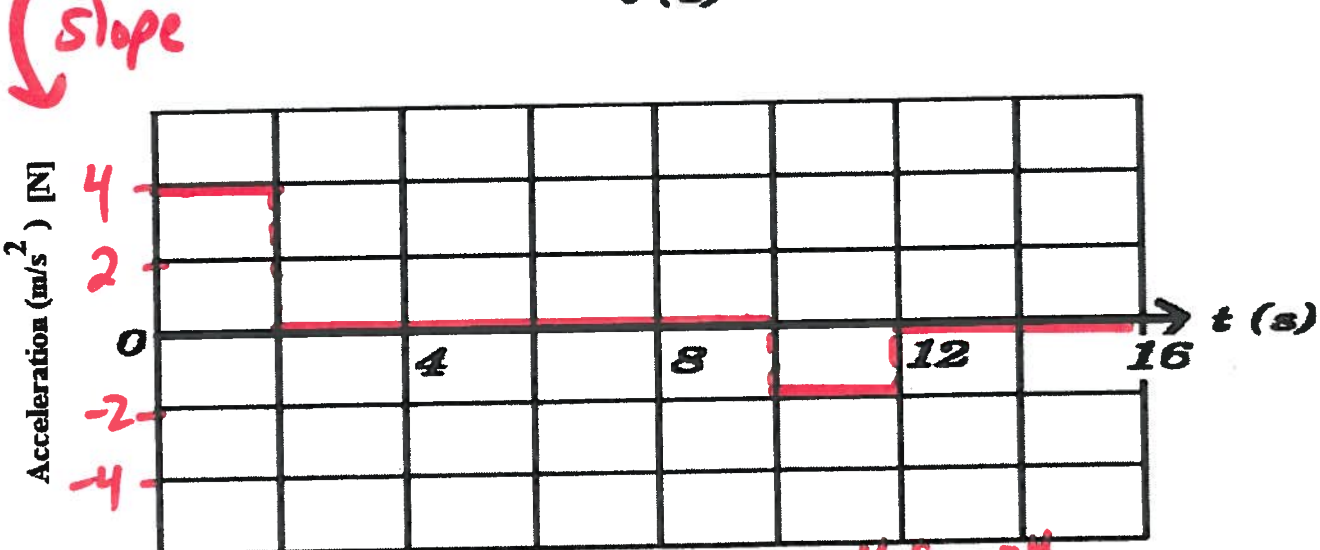

a_1 = slope 1 = $\frac{8-0}{2-0}$ = 4 m/s² a_2 = 0 a_3 = $\frac{4-8}{12-10}$ = $\frac{-4}{2}$ = −2 m/s² a_4 = 0