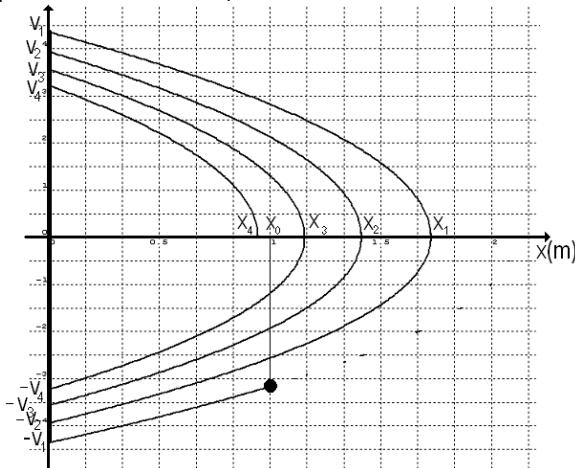


MARKING SCHEME FOR ANSWERS TO THE THEORETICAL QUESTION I

| Part | MARKING SCHEME - THE THEORETICAL QUESTION I- JUMPING PARTICLE | Total Scores |
|------|--|--------------|
| I.a. | <p>For: the distance D covered by the particle to the stop</p> $\begin{cases} W(x_0) = D \cdot F_f \\ U(x_0) + E_c = D \cdot F_f \\ F_x \cdot x_0 + E_c = D \cdot F_f \end{cases}$ $D = \frac{ F_x \cdot x_0 + E_c}{F_f}$ <p>final result $D = 20\text{ m}$</p> | 2.00 points |
| I.b. | <p>For:</p> $U(x) = F_x \cdot x$ | 2.00 points |
| I.c. | <p>For: the evolution of the square of the speed as function of the position</p> | 4.00 points |

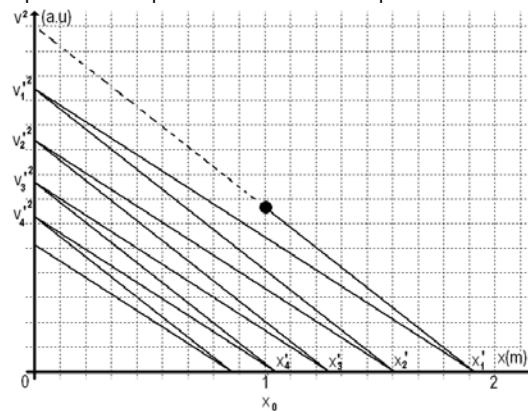
the evolution of the speed as function of the position



1.00 p

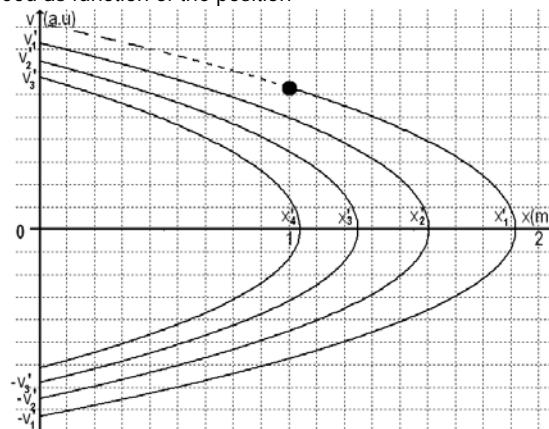
or

the evolution of the square of the speed as function of the position



1.00 p

the evolution of the speed as function of the position



1.00 p

Total score - theoretical question I

8.00
points

Professor Delia DAVIDESCU, National Department of Evaluation and Examination–Ministry of Education and Research- Bucharest, Romania

Professor Adrian S. DAFINEI, Ph.D, Faculty of Physics – University of Bucharest, Romania