MARKING SCHEME FOR ANSWERS TO THE THEORETICAL QUESTION I

Part	MARKING SCHEME - THE THEORETICAL QUESTION I- JUMPING PARTICLE		Total Scores
I.a.	For: the distance D covered by the particle to the stop $$\begin{cases} W(x_0) = D \cdot F_f \\ U(x_0) + E_c = D \cdot F_f \\ \|F_x\| \cdot x_0 + E_c = D \cdot F_f \end{cases}$$	1.00 p	2.00 points
	$$D = \frac{\|F_x\| \cdot x_0 + E_c}{F_f}$$	0.50 p	
	final result $D = 20\,m$	0.50 p	
I.b.	For: $$U(x) = \|F_x\| \cdot x$$	1.00 p	2.00 points
		1.00 p	
I.c.	For : the evolution of the square of the speed as function of the position		4.00 points
		1.00 p	

the evolution of the speed as function of the position
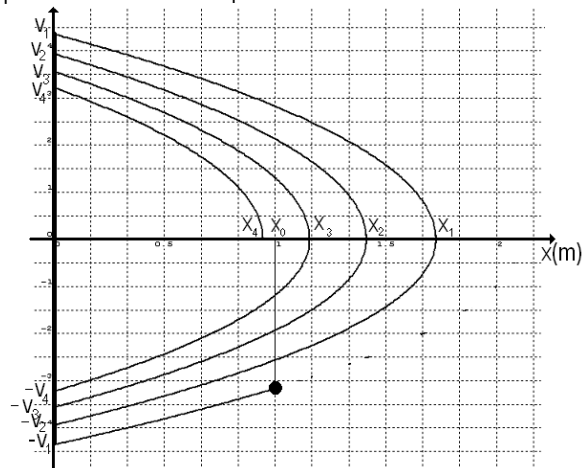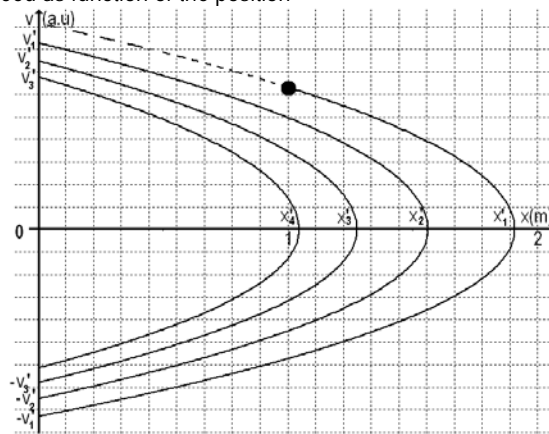

1.00 p

or
the evolution of the square of the speed as function of the position
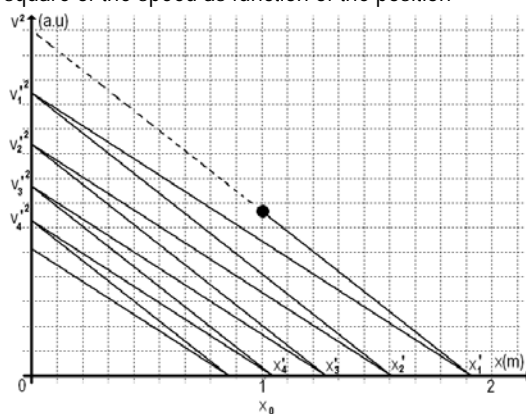
1.00 p

the evolution of the speed as function of the position

1.00 p

| Total score - theoretical question I | 8.00 points |