

Name of the Student: _____

Max. Marks : 19 Marks


Time : 19 Minutes

Mark Schemes

Q1.

Question Number	Answer	Mark
	weight / force (accept circle around weight if not contradicted on answer line)	(1) AO 1 2

Q2.

	Answer	Acceptable answers	Mark
(a)(i)	B to the left ←		(1)
(a)(ii)	A accelerating		(1)
(a)(iii)	substitution 625x 10 (1) Evaluation 6250 (N) (1)	625 x 9.8 6125 (N) give full marks for correct answer, no working	(2)
(b)(i)	 (1) <u>air</u> resistance (1)	upward arrow on any part of line vertical line from any point on the diagram <u>air</u> friction, upthrust, drag Ignore any downward arrow labelled weight or gravity	(2)
(b)(ii)	Balanced (1) Zero (1)		(2)

Total for marks for question = 8

Q3.

Question Number	Answer	Acceptable answers	Mark
(ai)	D 150 m (1)		(1)

Question Number	Answer	Acceptable answers	Mark
(aii)	B at 7 s (1)		(1)

Question Number	Answer	Acceptable answers	Mark
(aiii)	6 (s) (1)		(1)

Question Number	Answer	Acceptable answers	Mark
(aiv)	Substitution: 15 ÷ 6 (1) Evaluation 2.5 (m/s ²) (1)	Allow ecf from 4(aiii) Must be 15 divided by their 4(aiii) ECF allowed from first marking point ie evaluation of 15 divided by their answer from 4(aiii) Award 2 marks for correct answer, no working	(2)

Question Number	Answer	Acceptable answers	Mark
(bi)	100 - 30 (1) 70 (N) (1)	100 + 30 or 130 gains 1 mark Award 2 marks for correct answer, no working	(2)

Question Number	Answer	Acceptable answers	Mark
(bii)	550 (N) (1)	539 (N) allow use of $g = 9.8$ N/kg 539.55 (N) for use of $g = 9.81$ N/kg Award mark for correct answer, no working	(1)

Question Number	Answer	Acceptable answers	Mark
(c)	An explanation linking (combined) mass is less (1) smaller force required for same acceleration OR more acceleration from same force (1)	ignore references to weight, friction or backwards force ignore "easier to accelerate" as in stem less force needed (to accelerate)	(2)

(Total for Question = 10 marks)