

JUNIOR LYCEUM ANNUAL EXAMINATIONS 2009
MARKING SCHEME FORM 4

SECTION A – 40 marks					
No	Answer			Marks	Additional Guidelines
1.	Quantity	Symbol	Units	1 1 1 1 1 1 1 1	Accept Joules Accept Amps or Amperes
	Specific heat capacity	c	J/kg °C		
	Heat Energy	H	J		
	Voltage	V	V		
	Charge	Q	C		
	Current	I	A		
	Distance	s	m		
	Final Velocity	v	m/s		
	Acceleration	a	m/s²		
2 a)	alternating current			1,1	
2 b)	4.8A			1,1	1 mark for correct working 1 mark for correct unit
2c)	5A			1	
2d)	Correct labels			1,1,1	
3a)	polythene			1	
3b)	Positive charges on LHS, , negative charges on RHS			1,1	1 mark for correct placing of charges 1 mark for equal amount of charges
3c)	Electron flow down to earth			1	
3 d)	Positive			1	
3 e)	Conductor remains neutral			1	
3f)	positive, negative			1,1	
4a)i)	Due to inertia which resists changes in motion			1	Accept equivalent answer
4a)ii)	backward			1	
4 b)i)	1600kgm/s			1	Accept 1600
4b)ii)	0 kgm/s			1	Accept 0
4b)iii)	-1600 kgm/s			1	Accept 1600
4 b)iv)	-3200N			2	1 mark for correct unit Accept 3200N
4 c)	It prevents the person from moving forward and hurting himself			1	Time to stop is increased so force on person is decreased
5a)	0m/s			1	Accept 0
5b)	5m/s			1	Accept 5
5c)	0.5m/s ²			2	1 mark for correct working 1 mark for correct unit
5d)	25m			2	1 mark for correct working 1 mark for correct unit

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5 e)i)	terminal	1	
5 e)ii)	They are equal	1	

SECTION B – 45 marks			
No	Answer	Marks	Additional Guidelines
6a)	Graph	5	1 mark correct scale 1 mark correct axes 1 mark correct points 1 mark title 1 mark correct drawing
6b)i)	30m/s	1	
6b)ii)	20s	2	
6b)iii)	1350m	3	1 mark for each part of the graph
6b)iv)	1.5m/s ²	2	1 mark for working 1 mark for correct answer
6b)v)	3000N	2	1 mark for correct unit 1 mark for correct working
7a)i)	Hot fluids (less dense) rise and colder fluids move down	2	
7a)ii)	Longer length of pipe will heat more water	1	
7a)iii)	Black is a good absorber of heat	1	
7a)iv)	It will take longer to heat the water since there will be heat losses	1	
7a)v)	To serve as lagging and prevent heat loss	1	Accept as an insulator
7a)vi)	Radiation	1	
7a)vii)	Conduction	1	
7a)viii)	The temperature increases Greenhouse effect	1 1	
7b)i)	30°C	1	
7b)ii)	1 260 000J	3	1 mark correct working 1 mark correct answer 1 mark correct unit
7b)iii)	Lower	1	
8a)i)	series	1	
8a)ii)	3V	2	1 mark for correct working 1 mark for correct unit
8a)iii)	7V	1	
8a)iv)	14Ω	2	1 mark for correct working 1 mark for correct unit
8b)i)	Correct labels	1,1,1	
8b)ii)	Measure thickness of wire Attach wire to circuit and record ammeter reading Repeat several times, each time using a wire of different thickness	3	
8b)iii)	current	1	
8b)iv)	Avoid parallax errors when reading ammeter/voltmeter	1	Accept any other reasonable answer
8b)v)	inversely proportional	1	

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