Pearson
Edexcel

Mark Scheme (Results)

Summer 2019

Pearson Edexcel International GCSE
in Physics (4PH1)
Paper 2P

b)	(i)	$(N_p/N_s) = (V_p/V_s)$;	Allow any correct rearrangment. Allow "i(nput) and o(utput)" or "1 and 2" for "p(rimary) and s(econdary)". Allow correct word equation. Ignore 'P' for 'N' Condone 'T', 't' or 'n' for 'N' Condone 'coils' for 'turns'	1
	(ii)	Substitution of values for N_p, V_P and V_s ;	Allow any row of data from table or co-ordinates for a point on the line on the graph	2
		Evaluation of N_s ;	Accept answer in range 57-60. Accept non-integer number of turns.	
		e.g. $40 / N_s = (6.8/9.9) = 0.686....$;		
		$N_s = 40 /0.601.. = 58(.2....)$;		

Question number			Answer	Notes	Marks
9	(a)	(i)	Selection of P=F/A;		4
			Conversion of g to kg;	0.0037 seen anywhere	
			Evaluation of weight;		
			Evaluation of pressure;		
			Correct answer: 140 (Pa) i.e. $W = 3.7 \times 10^{-3} \times 10 = 3.7 \times 10^{-2}$ N; $P = 3.7 \times 10^{-2} / (2.6 \times 10^{-4})$; $P = 140$ (Pa);	Accept any value that rounds to 140. i.e 142, 142.3, Accept use of 9.8(1) for 'g', giving 139(.46)	
	(ii)		Same weight (and larger cross-sectional area); P=F/A so smaller pressure;	Allow 'force' for weight	2
	(b)		Increases continuously from -10 °C to 0 °C; Remains constant at 0 °C; Increases continuously from 0 °C to 20 °C;	Responses with no period of time at 0 °C score max 1 mark. Accept • Any gradient • Straight lines or curves for the increasing temperature parts • Any non-zero amount of time at 0 °C by eye Ignore any numbers on the time axis.	3
	(c)		Any TWO from: Bonds between particles are weakened or broken; Particles go from regular to irregularly packed/EQ; Particles go from vibrating (about a fixed position) to sliding past each other/EQ;	Allow particles get (slightly) further apart/EQ; ignore references to KE	2