

+-----Cursor Parking Lot-----+

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|| whoever is seeing this i love you. I have y12 mocks on this paper.

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There we go - love this XD its called a car park... parking lot is american

Ok lets talk at the bottom

Ez

Someone store a backup of the page

giving u all a second chance x

Marks Now Total 120

Guys was the bulb in parallel brighter or dimmer? Was that bulb 1 or 2? Dimmer yup.

1

Question	Answer	Marks	Notes
a. `fishing wire stress practical re	Inconsistent significant figures. Position of mass balance not recorded? No evidence for repeats Value for distance measured not recorded in table (2 marks) <u>Whats part b?</u> How can they accurately determine extension (4) - add a fiducial marker - use a set square to ensure rule is vertical - read re it sults from dead on to a out void random parallax error - ensure rule is as close as possible to the fishing line to reduce uncertainty	9	Wasnt % unc for one of them 0.3 And the other one 0.023 or something So $0.3 + 0.023 + 0.023 = 0.346\%$? So then you make that 1dp? So 0.3? HELP What did you guys get for the density for the

	we <u>Part c:</u> Define yield point. (1) the stress beyond which a material becomes plastic. I said point at which after material experiences additional strain without extra stress. - Yeah me too but i talked more about extension <u>Part d</u> The original length of the wire was [2]m, has the wire reached yield point? Yield point = 0.04(2) • Stress = Extension/ Original Length • $0.04 = \text{Extension}/2$ • Extension = 0.08 • Largest Extension in results was 7.2cm • $7.2 < 8$ • Does not reach This		second part of coins? Was it like 200 below the o.g. ?? what wa the original density again? Mty memory is so fuzzy Was it 1.89 something? yes I don't remember exactly but it was too low yes that's familiar (t I didn't get exactly 0.3 for your first one OHmakes sense
2. Coin volume Coin density	0.37%why? Cus $2 * U$ in dyes + $*U$ in tyes ofc and then $0.37+0.45=0.82\%$ for rho right Uncertainty is 0.82% cos its a digital reading so absolute uncertainty is the least sig fig no??? what resolution did you use? Not (0.01mm then halved it) ohh. why?? It is digital. It only shows whole number. Like 4.7, 4.6 or 4.8 so where tf the half come from man. Cus in Edexcel u half the resolution to get the uncertainty. Lets say you have a reading of 5.53mm. The true value will be between 5.525 to 5.535. Some exam boards don't half it but edexcel do. wtf bull my teacher doesnt even understjand uncertainties icl I'm not joking even today right bef by ore the exam she was reading out of the guide and say: paraphrase not quote: 'add the percentage uncertainties when u add values'. (ur supposed to add absolutes) $5.44 \times 10^{-7} \text{m}^3$???	15	$2 * \% U \text{ in } d \text{ plus } \% U \text{ in } t = \% U \text{ of volume}$ Was is $0.05/\text{valuex}100$ for tje %u? Oh wait yes that sorry 5×10^{-3}, my memory is poor right now Digital calliper has a resolution of 0.01mm but u half it Y.

	wait wasn't uncertainty like 0.097%??? What i got 0.82% was part b impossible for it to be pure gold? Yes do u remember any values? Upper bound was something.91 and the true density was something.93 hm i got 1.90×10^4 For edexcel there have been past questions where the whole uncertainty is allowed(this would be from old mark schemes), even with the whole uncertainty the value for density is still lower than gold		no 0.005mm no 0.01mm wtf u smoking Its 0.01mm and you dont have to half it. I didn't half and got an uncertainty of +- 420 giving a density of around 19200 which is below 19300 You have to half resolution Okay, so the absolute uncertainty is +-0.005 mm Yeah you should halve it, e.g. 2021 Q5ai the answer is 0.005 mm But for that question it not digital
3. Electricity 6 marker	$P=IV$ Kirchoff's first law, current split bulb 1 dimmer after switch 2 closes? Before S2 closed, bulb 1 and 2 are parallel, as the two bulbs had the same resistance, the pd across the were the same so they have equal brightness. When S2 closed, the effective resistance of bulb 1 and 3 are decrease d as they were connected in parallel, so pd across bulb 1 is now less the pd across 2, so bulb 1 dimmer than bulb 2. Also say the load cur. will be split between b1b3 (so both V and I fall)	6	

4. Helium	Mass = $9.46 \times 10^{-3} \text{ kg}$? i think i got that but i think i timed by r^2 not r^3 so might be wrong i got the same with r^3 then i might've done it right not too se I also got this .i put student y aswell. Student y was that weight decreases when helium leaves the canister. lovely Student Y was correct. As helium left the can, mass of canister has decreased, $w = mg$, so weight decreased. The upthrust person incorrect as the volume of canister has not changed, volume of air displaced is still the same, so upthrust exerted is still constant. No it isnt tho what Also the claim for upthrust is probably wrong anyway because pressure is on all sides of the cannister UPTHRUST DOESNT DECREASE the metal canister still displaces the same volume of air UPTHUST DOES DECREASE YOU GREAT MEN THE AIR WILL HAVE A DIFFERENT DENSITY WHEN THE HELIUM IS PUMPED OUT also are they even pumping air back in idk.	4 4	Think that is correct I said student x because the helium rises to top of container and exerts a force onto top of the container. Which then exerts a force in the upwards direction. So when gas released , less particles there to provide that upwards force ? Nah surely if removing more helium, the "upthrust" would decrease in your theory. Yeah maybe I am wrong but that means the weight of the container will increase because there is less upthrust. So more weight acts downwards ? Its student y, i think it implies this too by the fact you calculated the mass of the gases which was significant I thought it was student y because upthrust and weight are separate types of forces and u dont subtract upthrust from weight. Well in hot
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			air balloon question thats exactly what you had to do ? But it wanted weight not upthrust? Blue guy, in the hot air balloon one u needed the resultant of force, not just the weight
5. Mass spring T accuracy?	lovely 6 marks real Time for n oscillations. Divide by n, reduce % U in T. Take repeats - calc mean - reduce the effect of random error. Time from equilibrium, max velocity so lower uncertainty in t. Use fiducial marker so clearer when trolley passes equilibrium position. This question is on 2019 pp if anyone wants an official mark scheme An explanation that makes reference to the following points: - Time n oscillations and divide by n, where n is a large number (1) - Increasing the time (measured) reduces the uncertainty (in T) (1) - Repeat timing and calculate a mean (1) - Use a (fiducial) marker to indicate the reference position (1) - Use equilibrium position as reference position (1) - The trolley is moving fastest at this point so the uncertainty in starting/stopping the stopwatch is least (1) <u>Part B</u> Mass m is added to original mass M. Student gathered results T^2 and values for m.	6	

	How could they find original mass graphically • $T = 2 \times \pi \times \sqrt{m/k}$ • $T^2 = (2\pi)^2 \times m / k$ • In the form $y = mx$ • $T^2 = y$ • $M = x$ • $E \times (2\pi)^2 / k = \text{gradient}$ • $\text{Avg } T^2 \times k / (2\pi)^2 = \text{Original Mass}$	4	Isn't it $T = 2 \times \pi \times \sqrt{M+m/k}$?? Thats what i did too, i think its right
6. Speed of sound and sand?	Explaining sand positions where displacement of wave is max and collect at nodes where displacement is minimum. Standing waves formed: antinodes for constructive interference and nodes for destructive interference, sand displaced from antinodes Was speed of sound in plate much less than in air Yes 140 Tube in water, tuning forks with different frequency used, when standing waves formed a loud sound is heard. For standing wave formed there's a node on the closed end	3 5	What was the answer for these? Icl can't remember for part 2 Wavelength was 32cm but what was the time? I got 140ms^{-1} which is much lower than 340ms^{-1}

	(water) and antinode on the open end. Devise a graphical method to find the speed of sound. For each tuning fork, adjust the tube in water until a loud sound is heard (when standing wave has formed) record L, and plot graph of L (not sure what multiple though, I think 2) against $1/f$, gradient of graph will be the velocity of sound.	3	It is 140 if the divisions are the squares and it is like 15 if the divisions are the little lines. Don't you have to double the value for speed you get in part B as it is sent down the plate and reflected back. So speedx2. Its still less but close to speed of sound ?
7.momentum and energy conservation with the gun	perfectly inelastic potential energy max at top, no E_k E_k max at bottom no potential at bottom E_k conserved as perfectly elastic as they move off together momentum before = momentum after IDK was it just me or did anyone mention change in momentum of the Earth (because of gravity/spring/tension of string) and of the air (because of air resistance) bumbaclart what's bro talking abt ? I think it was in elastic as the clay and pendulum became one object no what it's perfectly inelastic yup you're right i fumbled lol the one thing i spot 😊 Am i stupid for talking about how energy is dissipated into surroundings and momentum is transferred to air molecules. yes <u>Show that max height takes 0.6 seconds. Length = 2m</u>	6	Did anyone talk about the fact that there is elastic potential energy in the spring first? Yeah, i mentioned the elastic strain energy transformed into KE. also the KE is not conserved throughout the experiment, as some transferred into the internal energy of the bob Thank goodness, no one else seemed to put it but thought it was obvious. Cuz it said at the instant when the clay is being released? You are right yep

	• $T = 2 \times \pi \times \sqrt{\text{length}/g}$ • $T = 2.24$ • Divide T by 4 to get 0.56 <u>Find mass of pendulum. Stiffness = 0.118</u> • $T = 2 \times \pi \times \sqrt{\text{mass}/k}$ • Mass = 0.015kg	3	“instant” implies that the spring hasn’t extended yet
		2	
8. Radon one somewhere here	<u>Part A</u> Rd $\rightarrow$ Po + $4/2 \alpha$ <u>Part B</u> Safety hazard because alpha is highly ionising so could damage living cells (causing cancer) <i>when inhaled as gas(alpha doesn't penetrate skin)</i> <u>Part C</u> Explain why current in ammeter increases when gas is in chamber • Something about the alpha particles ionising the gas probably • I put that the gas rises to the top and emits alpha particles so makes the top electrode positively charged. Difference in potential so current flows <u>Part D</u>	1 2 2	Why did a current form?? Ahh i guessed that the alpha interacted w electrodes but agreed, i have no idea. Dont know, shit question. I put because there must be beta decay but idk i doubt it I put alpha particles are charge carriers as they're positively charged but I have no idea

	$\Lambda = \ln 2 / 55.6 = 0.0125$ $A/A_0 = e^{-0.0125(450)} = 3.6 \times 10^{-3} = 0.36\% < 1\%$ so claim is true This is correct 369 seconds if you calculated time for 1% so claim is correct	4	Alpha particles ionise other atoms hence electrons become delocalised. Probably something to do with the ionisation power of alpha particle? Yeah seen smth similar before, it's definitely because the alpha particles are ionising (and not just that they're attracted to cathodes)
9. graph	Gradient is 0.389 probably will be a range 0.38-0.40 is	9	Why is the answer so weird bruh
10. Baby?	Speed of obtuse baby $0.44 < 0.5$ so horizontally challenged baby safe. Bigger Baby lower natural frequency, as f inversely proportional to $\sqrt{\text{mass}}$ Mass was 15g Baby with greater mass has a lower natural frequency So the original baby needs to kick with a higher frequency compared to the fat baby to achieve max amplitude.	4 3	Pretty sure the 15g is for the mass of the block in the clay question, but i agree with this value Correct speed of baby

11. Potential divider and filament lamp	V increases as s move to y as greater share of resistance and therefore p.d (resistance is proportional to length) <u>Explain shape of filament lamp graph</u> Resistance increases as current increases as filament heats up amplitude of vibrations of atom increases, mean drift velocity increases. So gradient of graph is decreasing. oh good answer. I just put v increase, x increase, non linearly in fact-x⁻² relationship Yup gradient inversely proportional to resistance in the bulb	3 2	I mentioned there's heating effect when I and V increases Yes and the heating effect increases the resistance which decreases the gradien I put at small V it obeys hookes law
12. Chocolate	For the viscosity i got 10.9 which corresponded to 30% which is less than the wrapper (35%) Reason for inaccuracy - diameter of cylinder too small in comparison to ball so turbulent flow occurs? I said the melted chocolate might not be the same temperature throughout so viscosity might vary?? I said that laminar flow is unlikely to occur due to the long organic molecules in chocolate thus stokes law is not obeyed Multiple reading for time so % uncertainty in the mean value of time used 0.97% <<15% claim is wrong i wrote it in terms of calories not as percentage would that gst marks? Yeah just a comparison will do :) unless it specified %? I dont think so oh okay ty, if needed i got 33.5 calories then i timed 345x0.15 to get 55 and i said 55>33.5 345*4200*0.15 much greater than mc(change in theta) + ml Energy used to melt chocolate= 13,000 J ish 15% of energy released= 200,000 J So claim is wrong	5 2 5	0.97 I put intensity is inversely proportional to d². So you need more to record more values at the start rather than record consistently since as I—> infinity I —> 0 so values at start are more spread out.

LDR	Student is investigating the effect of light intensity on LDR and is varying distance of LDR from lamp. Criticise the students method. Explain one precaution the student should take to ensure accurate results. Explain effect of light intensity on current reading with LDR, include charge carriers in explanation. Increases the number of charge carriers, decreasing resistance, therefore increasing current	3 2 3	
Specific Latent Heat and Specific Heat Capacity?			

How bout brightness of lamps. When s_2 is closed, the power of bulb 1 is a $\frac{1}{4}$ of the power of bulb 2, you can show in any of the 3 power equations. Both voltage and current is half of the voltage and current of bulb 2. $P = IV$, $P = I^2/R$, and $P = V^2/R$ all show the power of bulb is $\frac{1}{4}$ of bulb 2. That's not true though because (a) bulbs are non-ohmic (b) brightness is not correlated with intensity/power because bulb 1 would emit a greater proportion of infrared. a) Power equations apply to any component not just non-ohmic. b) More power means more brightness. Yeah but you have to clarify that you're assuming it's ohmic when doing the voltage calculations and while power $\rightarrow$ brightness that doesn't mean it's a linear relationship. IDK I wrote $\frac{1}{4}$ anyways but I mentioned both things. Ohmic has nothing to with the voltage calculation Yeah it does, since the current through bulbs 1 and 3 are lower, its resistance goes down so you can't assume resistance of bulbs 1 and 2 are identical.. Like V is always gonna be $I \cdot R$. It said in the question that the bulbs were identical.... Yes identical but the resistance of the bulb depends on the current through it (which is lower for bulb 1) so the power in bulb 1 is going to be more than $\frac{1}{4}$. I think the question expects you to assume no heating effects occur yeah i guess what matters is what edexcel wants

Bulb 1 was connected in parallel. Bulb 2 was by itself. The e.m.f was 6V. So V of bulb1 = 2V and V of bulb2 = 4V. Current of Bulb 1 = $\frac{1}{2}$ * current of bulb 2.

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Also we sure perhaps bulb 2 doesn't just break? It did say 4V

Is the lamp in series brighter than the one in parallel? I did $P=I^2/R$ and r decreases so P is highYAHH Sorry mistook equations!

Its not $p=i^2/r$ its $p=v^2/r$

Idr what lamo is what. R u talking bout parallel or series

Okay so is the lamp in parallel the brighter one or not... I don't remember what numbers the lamp where assigned - 3V per lamp, 6V power supply

Okay is bulb 2 rhe parallel bulb or ... I don't remember what numbers they assigned the bulbs ok!! I said that because the parallel arrangement has a smaller total resistance and $P=V^2/R$, the power increases in the parallel arrangement but I think what I wrote is wrong. P

I think imma fail physics p3

Bulb 1 was the one in the top left, bulb 2 im 99% sure was the one on the right and bulb 3 was the one below bulb 1. I agree

I think I got maximum 50% on physics icl I missed 20 marks in p3 by not answering questions

Grade boundaries won't be stupidly high. i agree especially after all the complaints last year

- oh yeah didn't even think about this **What were the complaints someone explain? Ignorance is bliss they wont change their methodology**

I think they'll be fairly similar to last year but they've made the papers easier this year? Idk though i think that the 2023 paper 3 was way too easy, much easier than this one, i predict similar to last year, although could fluctuate either way. My dad aint the head of edexcel tho lol i agree but i think paper 1 and 2 were a little bit easier maybe it'll all balance out. Unfortunately neither is my dad so i guess we'll have to wait and see lmao fingercross guys

International 2024 was 78% - **the students sitting international aren't as good and they just use a bell curve so doesn't mean much-** for A* and they are much easier than a levels

Edexcel Paper 3 2024

I could probably get 83 something, but for 85... its way too high. Dw about it, there is no way it can skyrocket over 15% thanks mate
I'm scared ngl I think I could've done the repeat questions better

My prediction for GBs overall: 75% (no higher hopefully) - A*, 60% - A, 45-50% - B etc

Hope this is true !! I'm aiming for an A but I think I may get a B tbh but I'll still be happy. I found paper 1 bad but paper 2 really good, and paper 3 meh

Can someone fill in the marks for each question pls

This paper set was pretty damn easy idk i think grade boundries will be high but i could be wrong



Counting the marks is so hard on this
Who fw me
I do
I fw that heavy