PROGRESSION EXAMS

MATHS DEPARTMENT

The exam paper

- Has been marked in the same way as an Edexcel external examination.
- Has been marked using the codes

BO - incorrect answer B1 – correct answer

MO- incorrect method M1 – correct method

AO - incorrect accuracy A1 – correct accuracy

- Do not contain any comments or feedback.
- You should refer to the examiners report on the VLE for feedback.

The marking process

- Marking of examination papers has been shared across the course team.
- Each question was marked by a team of two teachers so that each question has been consistently marked across the cohort.
- Your mark for each question is recorded on the front of your paper
- The paper had 100 marks. Your total score on the front cover of your paper is a mark out of 100.

The grade boundaries

- Are based on BHASVIC AS Maths pass rates at each grade over the past five years. The percentage scores needed for each grade are shown below.
- A* 85
- A 75
- B 65
- C 55
- D 45
- E 35

Queries about marking

- The moderator will be available on Friday (22nd) at lunchtime in room 7 for any queries about the adding up of the marks on your paper.
- The moderator will not be able to re-mark your paper.
- Make use of the Examiners Report to get feedback on how to improve.

What if I haven't passed?

- You will sit a pass/fail resit examination at the start of July.
- Your teacher will hand you a support programme package that will start this week. There will be four sessions to attend.
- Each student will be supported by Dea and the Learning Support team.
- Maths Subject Extensions are available to all.
- The result of your resit will be made available by the end of term.

What if I have underperformed?

- Correct any questions where you didn't score full marks
- Identify topics where you scored less than 50%.
- Use the Support Programme on the VLE to consolidate topics where you underperformed.
- Attend Subject Extensions to get help with your tricky topics.
- Ensure that you invest time over the Summer to complete Continuing with Confidence (CWC)in preparation for CWC test in the second week back in September

What about my UCAS Predicted Grade?

- Your default Predicted Grade will be your original Progression Exam result
- Your final Predicted Grade is not set until October, and will be influenced heavily by your CWC result
- If you are unhappy with your Progression Exam result/Predicted Grade there may be opportunity for this grade to be reviewed if you have shown **strong, significant improvement** via your CWC test
- Please bear in mind grades would likely go up by no higher than one, and grades could potentially go down by one if your CWC test is significantly lower than your Progression Exam result

Examiner's Report

Review of Progression Exam

Question Number (Average %)	Common Mistakes	Successful Methods
Question 1 79%	Missing out "< 0" Writing k>-1, k<$-\frac{1}{9}$ Writing $-1 < k \leq -\frac{1}{9}$	Find critical values by solving the inequality Writing "$-1 < k < -\frac{1}{9}$" Writing "$-1 < k$ and $k < -\frac{1}{9}$"
Question 2 75%	In part b) students needed to have a concluding statement or a preamble to gain the one mark available	In part a) taking the time to show completed square for both x and y so that all constant terms are then obvious and can be moved to the RHS.
Question 3 78%	a) Dividing through by 2 too early. Find all the solutions for 2x before dividing to find solutions for x. b) Using an incorrect rearrangement for $\cos^2 x$	a) Adjusting the range for 2x first and a sketch of sin x showing the full range of solutions USE of checking to show that solutions for equation work!
Question 4 91%	Overall completed quite well. Factor theorem; not equating f (1) or f (2) to zero OR not solving equation simultaneously. If using the multiplying out method, mistakes in the algebra were common.	Expressing function as the product of a quadratic and linear, expanding and equating coefficients. Correct understanding and use of the factor theorem to form the simultaneous equations
Question 5 51%	Not done that well usually the students were able to find (a) f(x+1) but may have mistakenly used f(x-1). A lot of students were not able to find (b) 2f(x) -2(x+1) =-2x+2 was an error seen very often. Students also did not multiply out and simplify after subbing in the transformation	Some students completed the square to transform the equation. Writing down 2g(x) and g(x+1) first seemed to help the successful students.
Question 6 78%		

Examiner's Report

Question 7 86%	Some students didn't show that they planned to integrate. In this situation, if they made mistakes in the integration, it didn't count as the use of the correct method. Students who forgot the '+ c' regularly then forgot that this vaue required evaluating. The question asked for the equation of the curve, hence 'y =' was required at some point to make it an equation.	Intention to integrate shown. '+ c' included. Students who directly demonstrated their substitution of x and y were more likely to gain method marks here. 'y =' included.
Question 8 52%		
Question 9 61%		
Question 10 74%	If the product rule is incorrectly written down, or incorrectly substituted into, then method marks are lost here. Some students forgot to write 'dy/dx =' for their final derivative.	Students that wrote down the product rule and then showed u, du/dx, v and dv/dx clearly in a grid generally performed better.

Examiner's Report

Question 11 82%	It needs to be noted that in the new exams students MUST have dx next to their integral or they will lose a mark. On many occasions the $\int \square$ sign is being used SUBSEQUENT to actually integrating so they are saying 'I am about to integrate something I have already integrated' i.e. poor notation. Common issues: - Some students were integrating between the x intercepts i.e. where the graphs crossed the x axis, and did not understand that when finding the area between two curves you do top – bottom and integrate between their intersections - Some students integrating bottom-top and getting negative solutions without correcting or making statement about being positive area (wonder if they understand why and how the integral works) - Some students clearly not using integral button on their calculator to CHECK - Some students showing numerical solutions only, without EVEN showing the integration step let alone putting in their limits	Top curve – bottom curve achieved most marks, all done within ONE integral. Important tip to do top = bottom, move all to the left, so quadratic can then be fed DIRECTLY into the integral sign with the limits just found * BE CAREFUL of students setting quadratic = 0, dividing by a term to make it easier to solve, solving it to find intercepts, then using the DIVIDED TERM in the integral itself! It means they would be out by a factor of a! Two attempts certainly showed an advantage in this question.

Examiner's Report

Question 12 61%	Generally, students are not rounding to 2 or 3s.f. throughout mechanics' questions when using g. This will lose 1 mark per question. Part a) Again, putting sin and cos the wrong way round is a persistent problem. They DO NOT need a SUVAT table to work out anything in the horizontal direction. It creates confusion and a distraction. Just go straight to S = Ut. Part b) M1 given for v = u +- at, B1 given for vertical use of sin. Common mistake not putting directional arrow next to vertical SUVAT table, and therefore signs all over the place. U dictates positive direction! Part c) Students not drawing correct triangle, therefore direction made no sense. Students not saying their angle RELATIVE TO +VE x axis, or stating as a bearing. This loses 1 mark. We were generous if triangle clearly indicated which angle was being referred to.	Horizontal immediately S = Ut. Drawing velocity triangle. Putting directional arrow next to vertical SUVAT table to indicate positive direction (dictated by U).

Examiner's Report

Question 13 52%	General issue throughout: students not writing resultant = 0. They are writing R(->) = ... without then saying = 0. This is NOT an equation !! Part a) Missing g in weight component costed many marks scoring max M1A0 M1A0 M1A0. If students got sin/cos or +- wrong way round were given the method mark. T without cos or sin would be maximum M1A1 M0A0 M1A0 Biggest mistake was assuming R=50gcos30 straight away. This meant no T to factorise so maximum could get was M0A0 M1A0 M0A0 -> very expensive and occurred too often	All in one-line perpendicular and all in one line parallel. Almost all marks achieved if written this way, with no simplified numbers at this point. All in brackets, then simplify to find a number later. Recognising that cos is NEXT to the angle so that sin and cos are right way round !
Question 14 61%	Generally done well, although some students mistakenly tried to rewrite the summary data in terms of x and then use these in the formulae. This approach lost all 5 marks, as the whole point of the question was to work with coded data.	Many students answered this well and obviously were comfortable with coded data.

Examiner's Report

Question 15 70%	Final accuracy mark can only be given if the correct conclusion of reject null hypothesis is interpreted in the context of whether there is an improvement in likelihood of balls bouncing..	Clear Templates that students had learnt in order to set out work met with al lot of success.
Question 16 70%	Parts (a) & (b) were mostly correct, although for some there was some confusion how to determine whether they were independent, or wrote the formula, but did not use it! Boxes missing around the Venn diagram was seen a couple of times, and P(A) and P(B) were often incorrectly worked out for part (c)	A clear Venn diagram seemed to be most important, as students could then work out part (c) easily.