

A-LEVEL
**DESIGN AND TECHNOLOGY:
FASHION AND TEXTILES**

7562/2: Paper 2
Report on the Examination

7562
June 2019

Version: 1.1

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General

There are two exams for the Fashion and Textiles specification in which students are assessed on their knowledge and understanding of technical principles and design and making principles. They are also tested on their ability to analyse and evaluate design decisions and outcomes, and wider issues in design and technology. Both papers give students the opportunity to demonstrate maths and science skills and knowledge. Paper 2 focuses on the designing and making principles detailed in the specification subject content.

Overall, students responded with enthusiasm to Paper 2 and the majority attempted all questions. Many students took the opportunity to demonstrate their knowledge and understanding of the subject writing substantial responses to the extended answer questions which were worth 9 or 12 marks. Students gained higher marks when they gave detailed answers with a wide variety of points and full explanations that were relevant to the question.

In this first year of the specification it was pleasing to see that some students were clear on how to carry out the calculations for the maths questions and were able to gain full marks with ease. It was felt that many students had been prepared to some degree to meet the demands of the maths questions which gave them the confidence to work through the calculations.

In general, many students read the questions with care and their responses were appropriate, although question 8 was misinterpreted by some. The examiner's report for Paper 1 gives some helpful advice to improve success in the examination which is also relevant to this paper.

Section A

Section A focused on product analysis and all students responded well to the initial questions as they were able to identify points from the images provided. The first three parts to question 1 concerned analysing and evaluating the suitability of two different jackets for outdoor winter sports and it was pleasing to note that most students responded appropriately to the question command words in their responses. When analysing the jackets, most students were able to identify at least some of the characteristics of the jackets and most were able to evaluate whether they provided warmth and protection from poor weather conditions. Almost all students gained at least one mark for each of the first three questions. Those who analysed and evaluated the jackets in detail and gave a wide variety of reasons for suitability, including where appropriate both positive and negative points, gained higher marks. Students found 1.1 the most challenging of the first three questions as this drew on their technical knowledge and understanding of Gore-tex® and plain weave polyamide fabric. Most students concluded that jacket 1 was more suitable for outdoor winter sports clothing. The rest of question 1 asked students to consider how the jackets could be further developed to include e-textiles, reflective tape and smart materials.

Question 1.1

This question concerned the suitability of the jacket fabric. Most students knew that the advantage of Gore-tex® was due to it being waterproof and breathable with about 20% of students able to give more accurate and detailed information about the reasons for this. Warmth was not credited for Gore-tex® fabric, unless the inner layer of the fabric was described as thermally insulating in some respect. Some students confused the layers of Gore-tex® with the lining of the jacket. Many knew that the size of raindrops and of water vapour from perspiration was relevant to Gore-tex® but had limited or no understanding that a microporous membrane is the barrier to water rather than the outer layer of the laminated fabric. There was some confusion between waterproof and

non-absorbent characteristics for the polyamide fabric. Some students had an impressive knowledge and understanding of the two fabrics and could analyse and evaluate in detail.

Question 1.2

This question focussed on the style features of each jacket. There was a good response to this question with nearly three quarters of students achieving 3 or more marks. More students gained marks in the higher mark band for 1.2 than for 1.1 or 1.3. Many students understood the demands of the question and presented fairly good evaluations to support their points. Some lacked a sufficient variety of points or depth of analysis and evaluation to gain higher marks. Repetition was sometimes evident in responses such as: pockets keep hands warm, hood keeps head warm, elasticated hem keeps heat in. Higher marks were gained when students made comment not only about protection from the weather but also about jacket shape, fit, ease of movement and safety.

Question 1.3

The components of each jacket were considered for this question. Generally, this question was well answered although fewer students were awarded marks in the top mark band. Some regarded pockets and the lining as components but this question is not about subassembly or manufacturing but about product analysis and so this was not credited. There was some lack of distinction between elastic and elastane fibre. This meant students who stated that the cuffs, hood and hem of jacket 2 were gathered with elastane did not gain credit. Similarly, some referred to the press studs or poppers on jacket 1 as buttons and linked this to ease of access which was incorrect when referring to buttons. Fewer students were able to give disadvantages of the components and may have missed out on some credit for an evaluative response.

Question 1.4

This question was more challenging than expected. Responses that described how e-textiles can be incorporated into a jacket rather than just carried in pockets were given credit. To gain marks in the top band, examiners were looking for an understanding that for e-textiles to work, there must be a technical aspect eg use of conductive threads, batteries or Bluetooth technology, allowing electronic devices to be integrated into textiles. Around 14% of students referred to a technical point. Some students were able to give examples of a range of e-textiles which could be included in the jacket, with GPS tracker devices and LED lights being the most common examples. Incorrect responses included those which gave modern or smart materials instead of e-textiles to increase the safety and comfort of the wearer. For a small number of students there was some confusion between insulated jackets, use of phase changing materials and jackets with some form of electrical heating device. Over 4% of students didn't attempt the question.

Question 1.5

For this maths question students were asked to calculate the length of reflective tape needed for the jacket to the nearest cm, with 3% added for seam allowances. Most students could find the total length of the vertical/horizontal sections although often only one 25 cm length was used. The length of the diagonal pieces required the use of Pythagoras' Theorem and this proved challenging to many. Many students could increase by 3% but instead of increasing the total length, they chose to increase each individual length by 3% and then add these to reach their total. This resulted in a number of arithmetical errors. Some students forgot to add the extra 3% tape so failed to get the third and fourth mark. Some gained a method mark by correctly adding the 3% for seam allowance

but overall the final answer was incorrect as the wrong values from the front and/or back had been used.

Question 1.6

Examiners were looking for either a correct name or a description of a smart material used to improve performance of outdoor winter clothing. Unfortunately, some students gave a correct name but then went on to give an incorrect explanation of the term, so no marks were awarded. Roughly equal numbers of students scored 0, 1 and 2 marks. Some students clearly did not know what was meant by the term smart material and gave incorrect answers such as Kevlar®, microencapsulation, Nomex®, Gore-tex® and Fastskin®. The most popular correct responses were thermochromic and photochromic material. However, some students were confused and referred to thermoplastic and thermal layers instead of thermochromic in their responses.

Section B

Question 2.1

Most students gained at least 1 mark for defining what is meant by anthropometric data as they knew it was about taking measurements of the human body and presenting the information in chart form. Some less effective responses also referred to ergonomics and were not clear about the difference between the terms. Incorrect answers sometimes suggested that anthropometric data is the use of questionnaires, client feedback or surveys in relation to consumers shopping preferences.

Question 2.2

Students were asked to explain how designers use anthropometric data and percentiles. It was challenging to gain all 3 marks for this question. Over 3% did not attempt the question. Some students knew that designers could use the data to target garments to fit the average sized person but their explanations often lacked clarity and there was little or no reference to percentiles. A few had an in depth understanding of using percentiles to design tall, regular and petite sizes or to develop inclusive products based on a broad spectrum of percentiles.

Question 3

Students wrote enthusiastically about Mary Quant and seemed to have empathy with the teenagers of the 60s and their wish to dress differently to their parents. Many students were able to identify a few of the reasons why her clothing was popular with teenagers but in many instances the knowledge and understanding was superficial. This was a 12 mark question but on average students gained only 4 marks and less than 5% of students gained marks in the top mark band. Examiners were looking for more detail in the analysis of the reasons why Mary Quant's designs were popular with teenagers. Also, references to a wider range of Mary Quant's fashion designs was expected for the highest marks, with information about fabrics, mix & match separates, specific design features such as collars, zip pulls, buttons, pockets. The miniskirt was the most frequently written about fashion design and some students understood some of the reasons why the very short length was controversial. However, some students failed to mention the sexual liberation that took place in the 60s and its influence on the style of garments. A few students incorrectly included Vivienne Westwood's mini-crini in their response. The most common correct points concerned bold patterns, bright colours and short lengths but these were not necessarily linked to examples of her work.

Question 4

Most students were able to describe the key design features of Punk; however, explaining how Punk has influenced designers and helped to shape fashion since 1970s was more challenging. Nearly all students were able to identify Vivienne Westwood as a key fashion designer influenced by the Punk fashion movement and most referred to T Shirts with slogans on. This was a 9 mark question and, to gain marks in the top mark band, responses had to be detailed and demonstrate an excellent understanding; over 7% of students were awarded the higher marks with most students just getting into the middle mark band. Not many students gave the level of detail that examiners were anticipating. For example, McQueen was noted for the use of tartan fabric in his Highland Rape collection, but few students discussed how the fabric was used in the collection, or how other elements of McQueen's style was influenced by punk, such as use of skull imagery, leather and social comment. The Versace black dress known as 'That dress' was a popular example of how Punk has influenced designers; however, little detail was given other than reference to use of safety pins. Many pointed out that the ripped jeans seen in contemporary high street fashion is a lasting influence from the Punk era.

Question 5

This question required students to explain how the production of denim jeans can have a negative impact on the environment, and to also suggest ways this impact can be reduced. Nearly all students attempted this question and they all gained at least 1 mark. To gain marks in the top mark band responses had to be detailed and demonstrate an excellent understanding. Over 7% of students were awarded the higher marks; most students were almost in the middle mark band. There was a good understanding of the issues surrounding denim although some responses concerned only excessive water consumption and the toxic pesticides used in growing cotton, and so lacked sufficient breadth to gain marks beyond the bottom mark band. Many references were made to the disappearance of the Aral Sea. This was a good example of the environmental impact of the excessive use of water. However, too many students were simply recounting the facts in too much detail without linking them to the question; often, students were mid-way through the space on the question paper before moving on to other key points.

Some students gave limited or inappropriate suggestions about how the negative impact on the environment can be reduced. The most common correct points were to grow cotton organically, use closed loop systems when applying dyes and chemical treatments to cotton and use of renewable energy sources to power factories. Some suggested dope dyeing cotton which is incorrect as this method applies to synthetic fibres.

Some students wrote at length about recycling jeans and taking them to charity shops. However, the question concerned the production of jeans rather than reusing them or disposing at the end of their useful life. Credit was given though for points about recycling denim waste during production by shredding it into fibres for re-spinning.

Question 6.1

Nearly all students were able to correctly identify datum point A on the stitched logo for this maths question. Where the answer was incorrect it was often due to a mix up between the x-axis and the y-axis.

Question 6.2

Students were asked to give the new co-ordinate point for the stitched logo, enlarged by a scale factor of 2. This was a 1 mark question with less than 40% gaining the mark. Students gave a variety of responses and it was clear that more than half the students did not have the recent experience of plotting scaled co-ordinates to be able to answer this question successfully.

Question 7

Students were asked to calculate the cost of two different lining fabrics and find out which one was within the given budget. The challenge of the question was to consider two different widths of lining fabric and to work out how much of each lining fabric was required based on given percentages. There were many different approaches adopted by students to this question. Many students misread the question and failed to see the word 'less' with the percentages. This meant that a maximum of 3 marks were available. Many students rounded or truncated values early in calculations meaning their final answer was out of the accepted range. Common examples of this were: $33\% = 1/3$ and $0.5025 = 0.5$. For students who had correctly identified lining fabric B as being within budget, there also needed to be working out for lining fabric A to award full marks.

Question 8

Students were asked how technical advances have impacted on the care of fashion and textile products. Some students thought this question was about CAD/CAM, whilst others thought technical advances were to do with quality control. Some wrote about care labels and washing instructions for textile products with e-textiles incorporated. Nearly 2% of students didn't answer this question; 11% got 0 marks. Most students were awarded marks in the lowest mark band, with very few responses including sufficient range of developments in technology, detail and level of understanding to reach the top mark band. The most popular correct answers included information about automatic washing machines and detergents, stain resistant and crease-resistant finishes, easy care synthetics being quicker to dry and some reference to nanotechnology or self-cleaning fabric.

Use of statistics

Statistics used in this report may be taken from incomplete processing data. However, this data still gives a true account on how students have performed for each question.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.