

A-level DESIGN AND TECHNOLOGY: FASHION AND TEXTILES 7562/1

Paper 1 Technical Principles

Mark scheme

June 2021

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Glossary for maths

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt.

- [a, b] Accept values between a and b inclusive.
- **For** π Accept values in the range [3.14, 3.142]
- TheirAccept an answer from the candidate if it has been inaccurately calculated
but is subsequently used in a further stage of the question.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Qu	Part	Marking Guidance		AO
01	1	State the fibre type and give two characteristics of Modal [®] .		AO4 1a
		Indicative content		
		Fibre type: new generation Lyocell/regenerated (cellulose). 1 mark		
		Characteristics		
		 Any two correct points from the following: Modal[®] is a sustainable fibre it is strong, both wet and dry as it is cellulose based, it is soft and breathable 		
		Modal [®] can also be highly absorbent. 2 marks		
		Award any other valid responses.		

Qu	Part	Marking Guidance		Total marks	AO
01	2	State the fibre type and give two characteristics of Tactel®).	3 marks	AO4 1a
		Indicative content			
		Fibre type: modified nylon/polyamide/ synthetic.	1 mark		
		Characteristics			
		 Any two correct points from the following: Tactel[®] is made from microfibres, which are very fine synthetic fibres they are often fibrillated, creating a soft or peach skin effect Tactel[®] is strong it drapes well Tactel[®] can also wick moisture away from the body. 	2 marks		
		Award any other valid responses.			

Qu	Part	Marking Guidance	Total marks	AO
02	1	State what is meant by the term non-woven fabric.	1 mark	AO4 1a
		1 mark for any correct response.		
		Indicative content		
		Fabric made directly from fibres.Fabric not constructed with yarns.Fibres pressed together to form fabric.		
		Award any other valid responses.		

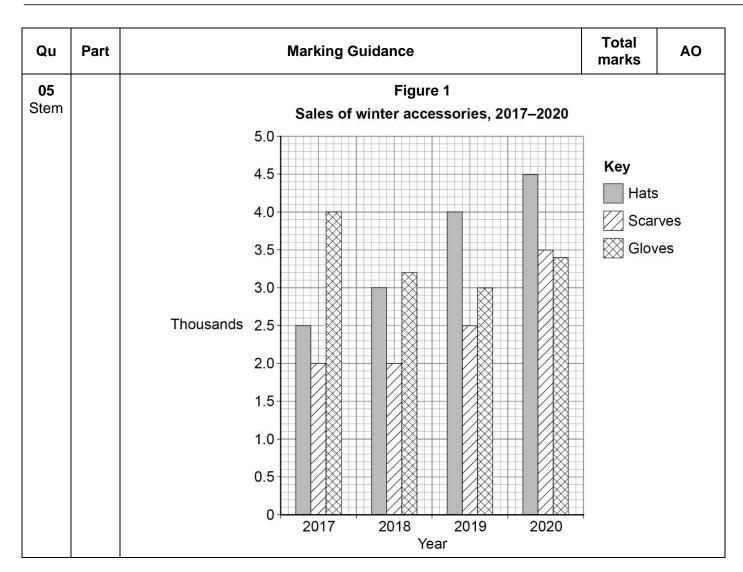
Qu	Part		Marking Guidance	Total marks	AO
02	2	Describe t	wo different methods of making non-woven fabric.	6 marks	AO4 1a
		5–6 marks	Detailed description of two different methods of making non-woven fabric. The response describes two appropriate ways of making non-woven fabrics. There is good technical knowledge, and both processes are described with some accuracy. Although these may not be discussed in even balance at the low end of the mark band, the information presented is largely correct.		
		3–4 marks	Good description of two different methods of making non-woven fabric. The response largely describes two appropriate ways of making non-woven fabrics. There is some technical knowledge and correct information; however, there may be a lack of information about one, or both processes, especially at the low end of the mark band.		
		1–2 marks	Basic description of two different methods of making non-woven fabric. The response attempts to describe one or two ways of making non-woven fabrics, although these may not be the most appropriate. There is limited technical knowledge and some confusion about both processes, especially at the low end of the mark band.		
		0 marks	No response or nothing worthy of credit.		
		Indicative	content		
		 Needle fibres, u 	on-woven fabrics from the following: felt – Barbed needles enter a batt of synthetic or wool sually by mechanical action. The barbs on the needles e the fibres, making a dense, felted fabric.		

 Wool felt – Scales on wool fibres interlock with each other when exposed to heat, moisture and friction. This action creates a matted fabric called wool felt. Thermal bonding –Thermoplastic fibres are fused together with heat and pressure, by using the heat setting properties of synthetic fibres. Adhesive bonding – Fibres are attached together with an adhesive which is sprayed, dipped or spread onto a web of fibres. The fibre web is pressed to create the fabric. Solvent bonding – A solvent is applied to a web of fibres which softens the fibres, allowing them to fuse together. When dry, the fibres set as a flat fabric. 	
Credit should be awarded for correct information in diagrams.	
Award any other valid responses.	

Qu	Part		Marking Guidance	Total marks	AO
03		Describe a fabrics.	an industrial test used to measure and compare pilling in	6 marks	AO4 1b
		5–6 marks	Detailed description of an industrial test set up to measure and compare pilling in fabrics. Student correctly identifies an appropriate testing method, and presents largely accurate information. Most of the steps involved in the test are described, to include reference to analysing the results and a comparison with a control sample. There may be a slight lack of detail at the low end of the mark band, however there is an overall understanding of the testing method.		
		3–4 marks	Good description of an industrial test set up to measure and compare pilling in fabrics. Student identifies an appropriate testing method, and presents some accurate information. Most of the steps involved in the test are described, but the information may be generalised and may not reference an analysis of the results. There is a lack of detail and understanding of key processes, especially at the low end of the mark band.		
		1–2 marks	Basic description of an industrial test set up to measure and compare pilling in fabrics. Student identifies a testing method, which may not be correct or the most appropriate. Attempts are made at describing some of the steps, however, there is little or no understanding of the process as a whole. The response may focus on the abrasion of materials only, especially at the low end of the mark band.		
		0 marks	No response or nothing worthy of credit.		
		Indicative	content		
		 measure Samples lower pla An abras on top o This abr circular i The mad fabric. A for fibre A company 	chine counts the number of rubs according to the type of After a determined number of rubs, the fabric is inspected breakage or pilling. arison is made with a control fabric.		
		Award any	other valid responses.		

Qu	Part		Marking Guidance	Total marks	AO
04			e issues when working with sheer fabric, including the of fastenings.	6 marks	AO4 1c
		5–6 marks	Detailed understanding of the issues when working with sheer fabric including the application of fastenings. A range of points are given, that reference both working with sheer fabric and the application of fastenings. There is a thorough knowledge of the issues and the information is both accurate and relevant, especially for full marks. At the low end of the mark band, there may be more focus on one area over the other, however the information presented demonstrates a good overall understanding.		
		3–4 marks	Good understanding of the issues when working with sheer fabric including the application of fastenings. Most points accurately reference working with sheer fabric and the application of fastenings. There is a fairly good knowledge of the issues and the information is mostly accurate and relevant, especially at the top end of the mark band. There is likely to be more focus on one area over the other, or the information may be more generalised, however, there is a reasonable understanding as a whole.		
		1–2 marks	Basic understanding of the issues when working with sheer fabric including the application of fastenings. A limited range of points are given, that may not be the most appropriate when working with sheer fabric or the application of fastenings. There is limited knowledge of the issues, and the information lacks accuracy, especially at the bottom end of the mark band. There is likely to be focus on one area only, or the information is very generalised.		
		0 marks	No response or nothing worthy of credit.		
		 open str Lightwei on a vac The fabr damagir Transpa seams w be seen When w made interpretation 	content abric is transparent, and can be delicate to work with. The ucture can fray and distort easily. ght fabric can be stabilised when cutting out, by placing cuum bed or using weights to keep fabric from sliding. tic is easily snagged, sharp pins and scissors will prevent ag the fabric. rent fabric can be an issue when making seams. French vill give a neat finish. Bound and overlocked seams will and make a product less appealing. orking with seams or hems, thread can be visible when to a garment. The same shade, fine silk or transparent an provide discreet stitching.		

 Use of the same fabric or binding eliminates the need for facing, which can spoil the appearance of a garment. Fastenings need to match the weight and look of the fabric. Sheer fabric is usually lightweight, heavy fastenings, such as domed buttons or buckles, will hang and pull the garment out of shape. Lightweight/small fastenings, such as shell buttons should match the weight and handle of sheer fabric. Fastenings are likely to be visible through the fabric. Velcro and zips, for example, may be seen and add bulk. Nylon zips may be more appropriate than heavyweight metal zips. Fastenings to match the fabric, such as clear snap fasteners, may be more appropriate. 	



Qu	Part	Marking Guidance	Total marks	AO
05	1	Sales of hats are 12.5% higher in 2020 compared with 2019.	1 mark	AO4 1c
		Calculate the number of hats sold in 2020. 4.5 thousand or 4500 1 mark (A)		

Qu	Part	Marking Guidance		AO
05	2	Sales of scarves increased by twice the amount from 2019 to 2020 as they did from 2018 to 2019.Calculate the number of scarves sold in 2020.3.5 thousand or 35001 mark (A)	1 mark	AO4 1c

Qu	Part	Marking Guidance		AO
05	3	Sales of gloves in 2020 is the mean of sales in 2017, 2018 and 2019.	1 mark	AO4 1c
		Calculate the number of gloves sold in 2020.		
		3.4 thousand or 3400 1 mark (A)		

Qu	Part	Marking Guidance	Total marks	AO
05	4	Complete the multiple bar chart in Figure 1 to show all from Question 05.1 to Question 05.3 . Award 1 mark for each correct feature of the graph, as as seen in Figure 1 above. All bars to correct heights from Questions 5.1 , 5.2 and 5.3 . (A mark can only be awarded here if their heights fit on the scale.) Equal gap to 2019 bars to previous gaps No gaps between the three bars for 2020	3 marks	AO4 1c

Qu	Part	Marking Guidance	Total marks	AO
05	5	A customer buys two items from a shop in 2019.	4 marks	AO4 1c
		Using the data in Figure 1 , calculate the probability that they are both scarves.		
		Give your answer as a percentage to the nearest whole number.		
		As a general principle, a correct response is awarded full marks.		
		$\frac{2500}{4000 + 2500 + 3000} \text{or} \frac{2500}{9500} \qquad 1 \text{ mark (M)}$		
		2499 9499 1 mark (M)		
		$\frac{2500}{9500} \times \frac{2499}{9499}$ or 0.0692 1 mark (M)		
		7% 1 mark (A)		

Qu	Part		Marking Guidance	Total marks	AO
06		Explain wh fashion tro	ny a designer might choose to use silk velvet fabric for ousers.	6 marks	AO4 1b
		5–6 marks	Detailed explanation of the reasons why a designer might choose to use silk velvet fabric for fashion trousers. There is a very good understanding of the characteristics of silk, along with accurate information about the qualities of velvet. Both of these areas are linked to fashion trousers, especially at the top end of the mark band.		
		3–4 marks	Good explanation of the reasons why a designer might choose to use silk velvet fabric for fashion trousers. There is a fairly good understanding of the characteristics of silk, along with some accurate information about the qualities of velvet. These two areas may not always link to fashion trousers, especially at the bottom end of the mark band.		
		1–2 marks	Basic explanation of the reasons why a designer might choose to use silk velvet fabric for fashion trousers. There is a limited understanding of the characteristics of silk, and little information about the qualities of velvet. It is unlikely these areas are linked to fashion trousers, especially at the bottom end of the mark band.		
		0 marks	No response or nothing worthy of credit.		
		Accept on Indicative	ly reasons given for suitability, do not credit drawbacks. e content		
		 texture. The nap different Both sill Silk and products Silk is a fabric. Velvet a 	 stands away from the ground weave, creating a raised creates an interesting light or dark effect when brushed in t directions. and velvet have luxurious qualities. velvet are both expensive, and are associated with luxury s. lustrous fibre, which is emphasised by the nap in the and silk are soft to handle. a three-yarn weave, and will drape well. 		
		Award any	v other valid responses.		

Qu	Part		Marking Guidance	Total marks	AO
07		create texture	v different types of finishes are applied and used to e on fabric. es of specific products to support your answer.	6 marks	AO4 1b
		5–6 De marks wi av the of ra ex lat	etailed understanding of different types of finishes ith largely accurate information. There is a good wareness of the process of applying the finishes, in he context of creating texture on fabric. Response hay include a detailed description of a limited number if finishes, or a more general description of a wider ange of finishes, which are linked to appropriate xamples of specific products. There may be a slight ick of detail at the low end of the mark band, however his does not detract from the overall response.		
		marks fai of cru de ge mu pr ma	ood understanding of different types of finishes with airly accurate information. There is some awareness if the process of applying the finishes, in the context of reating texture on fabric. Response may include a escription of a limited number of finishes, or a more eneral description of a range of finishes, which are nostly linked to appropriate examples of specific roducts. There is a lack of detail at the low end of the park band, however there is some awareness of the ifferent ways finishes are used to create texture.		
		marks Th the te: ra the alv pr	asic understanding of finishes with little information. here is limited awareness of the process of applying the finishes, these may not be in context of creating exture on fabric. Response will include a very narrow ange of different finishes, with little understanding of the process of applying the finishes, and these are not liways linked to appropriate examples of specific roducts. There is confusion and inaccurate formation at the low end of the mark band.		
		0 marks No	o response or nothing worthy of credit.		
		Indicative co	ontent specific products may include:		
		passes thro hooks tease Used mostl such as shi • Embossing	or raising, creates a textured fabric surface. Fabric ough a machine with rollers and small wire hooks, the se out the fibre ends, creating a nap or raised effect. Iy on cottons for warmth and softness, and products irts and bedding. g is used to create a raised patterned effect. Engraved as a design into the fabric surface, creating 3D effects.		

 Embossing can be very decorative and is often used on patterned dress fabric, including moiré and interior products. Heat setting creates effects such as pleats and crinkles. Thermoplastic fabrics can be fed through a heated chamber, that heat sets the effect onto the fabric, or a heated roller puckers the fabric at regular intervals. Used often for fashion products such as skirts and blouses. Stone or sand washing creates worn and scuffed effects. Fabrics are washed with pebbles or pumice stone to produce a distressed look and a soft fabric surface. Used mostly for denim on products such as jeans and jackets. 	
Award any other valid responses.	

Qu	Part		Marking Guidance	Total marks	AO
08			ety of different hand and machine embroidery d explain how they enhance fashion and textile	9 marks	AO4 1b
		marks mac infor hand on d gene Diffe alon fash of de band	ailed description of a variety of different hand and chine embroidery techniques, with largely accurate rmation. There is a good understanding of both d and machine embroidery; responses may focus detailed descriptions of a few techniques, or more eral descriptions of many different techniques. erent types of stitches are described with accuracy, ng with a perceptive account of how they enhance hion and textile products. There may be a slight lack etail or inaccuracy at the lower end of the mark d, but this does not detract from the overall ponse.		
		marks mac Their mac desc desc type and texti	od description of a variety of different hand and chine embroidery techniques, with some information. re is some understanding of both hand and chine embroidery; responses may focus on detailed criptions of a few techniques, or more general criptions of many different techniques. Different es of stitches are described with some accuracy, a limited analysis of how they enhance fashion and ile products. There may be some areas of fusion, especially at the lower end of the mark band.		
		marks mac infor hand eithe prod desc	ic description of a variety of different hand and chine embroidery techniques, with limited rmation. There is a poor understanding of both d and machine embroidery, with a likely focus on er variety of different stitches or enhancement of ducts. Very few different types of stitches are cribed with accuracy; and the analysis of how they ance fashion and textile products is minimal. There		

	may be confused and inaccurate information, especially at the lower end of the mark band.
0 marks	No response or nothing worthy of credit.
Indicative	content
 flat stitch stitch knotted create a 	broidery techniques may include: Thes sit on the surface of fabric, eg running, cross or satin stitches, where thread is wound around the needle to raised effect, eg French knot
	itches when each loop passes through the other, eg lanket or feather stitching.
	Proidery enhances textile products by: Bd effects, as stitches are often raised from the fabric
 creating adding b stitching 	texture, by using thicker yarns such as stranded wool beads and other embellishment incorporated with the for decorative effects
of colour	wide range of yarn types and different stitches to add pops r to products ery can be used on areas such as cuffs, collars and s.
 compute stitches scanned	embroidery techniques may include: er controlled embroidery that store pre-programmed to create designs I designs that can be programmed into computerised es to create unique patterns
 free made 	chine embroidery, controlled by moving fabric under the o create free motion designs.
Machine e • creating	embroidery enhances textile products by: complex designs
corporat • adding t	logos, monograms and motifs to represent images or e branding exture by incorporating ribbons and trims
colour ca	lyester and viscose threads for lustrous effects an add interest to areas of products such as pockets, s and cushion edges.
Credit sho	uld be awarded for correct information in diagrams.
Award any	other valid responses.

Qu	Part		Marking Guidance	Total marks	AO
09		Describe t	he properties of quilted fabric.	4 marks	AO4 1b
		3–4 marks	Good description of the properties of quilted fabric. At the top end of the mark band, accurate references are made to a number of different properties. At the low end of the mark band, the response is fairly accurate, but may lack some detail regarding the properties of quilted fabric. There may be some reference to the structure of quilting, rather than the properties.		
		1–2 marks	Basic description of the properties of quilted fabric. At the top end of the mark band, some correct references are made to different properties. At the low end of the mark band, the response lacks accuracy and detail regarding the properties of quilted fabric. Weaker responses may concentrate on the structure of quilting, rather than the properties.		
		0 marks	No response or nothing worthy of credit.		
		 They tra The thic falls. The pad Quilting Designs Trapunt effects. 	fabrics can be functional and decorative. ap air and provide thermal insulation. kness of the layers provide protection from abrasion and ded fabric creates a soft textured effect. gives a 3D appearance. can be created with decoratively stitched patterns. o, patchwork and Italian quilting create decorative surface		

Qu	Part		Marking Guidance	Total marks	AO
10			nd evaluate the use of computer aided manufacture (CAM) struction of fabric.	6 marks	AO3 2a AO3 2b
		5–6 marks	Detailed analysis and evaluation of computer aided manufacture (CAM) in fabric manufacture. A wide range of relevant points are given about CAM, which are accurate and relates to the construction of fabric. There will be a number of advantages, and some disadvantages to support the points made. A very good overall understanding, but there may be a slight lack of detail at the low end of the mark band.		
		3–4 marks	Good analysis and evaluation of computer aided manufacture (CAM) in fabric manufacture. Some relevant points are made, which are mostly accurate and may relate to the construction of fabric. Advantages are given, but there may be little or no attempt at an evaluation. There may be confusion and a lack of understanding at the low end of the mark band.		
		1–2 marks	Basic analysis and evaluation of computer aided manufacture (CAM) in fabric manufacture. Points made lack clarity and may not relate to CAM processes. Most, if not all points given focus on the advantages, with no real attempt at an evaluation. A simplistic analysis is presented, and a lack of understanding, especially at the low end of the mark band.		
		0 marks	No response or nothing worthy of credit.		
		Indicative	content		
		Advantage	es:		
		 automat structure coloured brocade made wi compute and quid circular l speed th whole ga need for compute structure non-wov 	abric can be made on air jet looms, where the shuttle is ically carried across fabric at high speed es such as Jacquard fabrics are produced with many I yarns woven simultaneously and broderie anglaise fabrics, for example, are easily th CAM, as complex designs are computer controlled er knitted fabrics create unlimited patterns that are easy ex to produce knitting machines produce fabric continuously at high nat require few seams arment or 3D knitting create complete products without the stitching or seams er controlled warp knitted fabric create sophisticated es such as lace, that can be highly decorative ren fabric production can be made by CAM, which controls sity of the fibre batt		

CAM increases the speed of fabric production.
Drawbacks:
 computer aided manufacture (CAM) is expensive to set-up and can increase the cost of fabrics it needs to be compatible with other manufacturing and design systems to work efficiently machines can breakdown easily, impacting the speed and flow of production.
Award any other valid responses.

Qu	Part		Marking Guidance	Total marks	AO
11		Outline the workshop.	e steps taken when carrying out risk assessments in a	4 marks	AO4 1b
		3–4 marks	In this mark band, there is a very good outline of the steps taken when carrying out risk assessments in a workshop. Information is generally accurate and fairly easy to follow. At the top end of the mark band there is a clear understanding of the process of risk assessment, while there may be a slight lack of detail at the low end.		
		1–2 marks	In this mark band, there is a basic outline of the steps taken when carrying out risk assessments in a workshop. Information is fairly accurate, but there may be a lack of clarity. At the top end of the mark band there is some understanding of the process of risk assessment; at the low end, there will be confusion and inaccuracy.		
		0 marks	No response or nothing worthy of credit.		
		Indicative	content		
		 and cher possible Assess to level of to the tevel of teve	hazards – all health and safety risks, such as activities mical substances used in a workshop, are identified as hazards. the risks – the hazards are assessed according to the harm, usually identified as a low, medium or high risk. the risks – measures are put in place to reduce the risk of a workshop; such as replacing toxic substances, modify activities or the use of PPE. the findings – information must be recorded in writing, with of the hazards, who may be harmed and action taken to he risks. – risk assessments should be reviewed regularly to hat safe working practices are applied and updated in changes to activities or substances.		
		Award any	other valid responses.		

Qu	Part	Marking Guidance	Total marks	AO
12		Fashion and textile products have care labels. Give three other types of labelling advice consumers may be given on products.	3 marks	AO4 1a
		Any three appropriate points, 1 mark each. Indicative content		
		 BSI kite mark. Fibre content, eg organic cotton. Country of origin. Sizing information. Fire labelling, a warning triangle or 'low flammability' logo. Furnishings labels, cigarette/match resistant triangle. Lion mark on toys. CE mark. Eco label, eg Oeko-Tex[®]. QR codes, that link to further information. Quality assurance, eg wool mark. 		
		Award any other valid responses.		

Qu	Part		Marking Guidance	Total marks	AO
13		Describe the maintaining	9 marks	AO4 1c	
		7–9 marks	Detailed knowledge of the care recommendations for wool. Response includes a wide range of accurate points that relate well to washing, drying and maintaining woollen products. The three areas are discussed in fairly equal measure. There may be a lack of detail at the lower end of the mark band, but points generally show a good understanding of specific care advice for woollen products.		
		4–6 marks	Good knowledge of the care recommendations for wool. Response includes a few points that mostly relate to washing, drying and maintaining woollen products. There may be more focus on washing, with limited discussions on drying and maintaining. There may be some inaccuracies at the lower end of the mark band, but points generally show a fair understanding of the care advice for woollen products.		
		1–3 marks	Basic knowledge of the care recommendations for wool. Response includes a narrow range of points, that are generalised, or focus on one, or more of the three areas of washing, drying or maintaining woollen products. There may be confusion and inaccurate		

information at the lower end of the mark band, but points may show a limited understanding of the care advice for woollen products.
0 marks No response or nothing worthy of credit.
Indicative content
 Washing: woollen products should be washed on a cool machine setting, at no more than 40°C heat, agitation and moisture will cause the scales on fibres to interlock and felt, which may distort the shape and size of products wool can be treated with a finish to prevent felting when machine washed products can be hand washed, to prevent excessive agitation specialist wool detergents should be used, as enzyme detergents may damage the fibres dry cleaning is often recommended as the fibres are not damaged in the process.
 Drying: woollen products should not be tumble dried, unless treated with a finish, as the heat and agitation will entangle and felt line drying is not recommended as pegs can mark garments products should be dried flat, to prevent stretching dry cleaning is appropriate, as the chemicals used are suitable for wool.
 Maintaining: woollen products are prone to moth damage, and should be stored in clothes bags or tissue paper moth deterring products can help prevent damage to the fibres products can be folded flat, and not on hangers, as stretching or marking may occur on shoulders woollen products are affected by sunlight, eg white wool can yellow, coloured wool can fade and should be stored in a dark area make repairs as necessary.
Award any other valid responses.

Qu	Part	Marking Guidance	Total marks	AO
14 Storm		Three different dyes are mixed to make one colour.	N/A	N/A
Stem		The ratio of dye A to dye B is 2:3		
		The ratio of dye B to dye C is 5:4		

Qu	Part	Marking Guidance	Marking Guidance				
14	1	What is the ratio A:C? Give your answer in its simple	3 marks	AO4 1c			
		Show your working.					
		As a general principle, a correct response is awarded	full marks.				
		A:B = 10:15					
		or	1 mark (M)				
		B:C = 15:12					
		Both the above and 10:12 seen	1 mark (M)				
		5:6	1 mark (A)				

Qu	Part	Marking Guidance	Total marks	AO
14	2	What fraction of the mixture is A? $\frac{10}{37}$ 1 mark	1 mark	AO4 1c

Part		Marking Guidance	Total marks	AO
			9 marks	AO3 2a AO3 2b
	7–9 marks	Detailed analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a wide range of points; at the top end of the mark band, these may be supported by appropriate examples. The information is largely accurate, and presents a fairly equal balance of positive and negative comments. At the lower end of the mark band, there may be a slight lack of detail.		
	4–6 marks	Good analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a few points, and information is mostly accurate. However, there may be a wide range of positive points, with little or no negative comments. At the lower end of the mark band, there may be confusion and a lack of analysis.		
	1–3 marks	Basic analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a narrow range of points, which may be generalised. It is likely most points are positive. At the lower end of the mark band, there is confusion and inaccurate analysis.		
	0 marks	No response or nothing worthy of credit.		
	Advantag social m Pinteres viral ma global a potentia range of promotio cookies products influence video ar links to p platform awarene	es: hedia platforms, eg Instagram, YouTube, Twitter and st interact with users to promote fashion products rketing is a low-cost method of promotion udiences can be reached very quickly I customers can be targeted via search engine data on a f platforms ons, discounts and reviews can attract new consumers monitor browsing to target consumers with specific s ers and celebrities raise brand awareness, eg Kylie Jenner nd live streams give instant access to brands, and direct purchasing fashion products is offer giveaways and competitions to promote brand ess and keep consumers interested.		
	Part	Analyse at the promo 7–9 marks 4–6 marks 1–3 marks 0 marks 0 marks 0 marks Indicative Advantag • social m Pinteres • viral ma • global a • potentia range of • promotic • cookies products • influenc • video ar links to • platform	Analyse and evaluate the use of social media and viral marketing in the promotion and advertisement of fashion products.7–9 marksDetailed analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a wide range of points; at the top end of the mark band, these may be supported by appropriate examples. The information is largely accurate, and presents a fairly equal balance of positive and negative comments. At the lower end of the mark band, there may be a slight lack of detail.4–6 marksGood analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a few points, and information is mostly accurate. However, there may be a wide range of positive points, with little or no negative comments. At the lower end of the mark band, there may be confusion and a lack of analysis.1–3 marksBasic analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a faw points, and information is mostly accurate. However, there may be a wide range of positive points, with little or no negative comments. At the lower end of the mark band, there may be confusion and a lack of analysis.1–3 marksBasic analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a narrow range of points, which may be generalised. It is likely most points are positive. At the lower end of the mark band, there is confusion and inaccurate analysis.	Part Marking Guidance marks Analyse and evaluate the use of social media and viral marketing in the promotion and advertisement of fashion products. 9 marks 7-9 Detailed analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a wide range of points; at the top end of the mark band, these may be supported by appropriate examples. The information is largely accurate, and presents a fairly equal balance of positive and negative comments. At the lower end of the mark band, there may be a slight lack of detail. 4-6 Good analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a few points, and information is mostly accurate. However, there may be a wide range of positive points, with little or no negative comments. At the lower end of the mark band, there may be confusion and a lack of analysis. 1-3 Basic analysis and evaluation of the use of social media and viral marketing in the promotion and advertisement of fashion products. Response gives a narrow range of points, which may be generalised. It is likely most points are positive. At the lower end of the mark band, there is confusion and inaccurate analysis. 0 marks No response or nothing worthy of credit. Indicative content Advantages: • social media platforms, eg Instagram, YouTube, Twitter and Phinterest interact with users to promote fashion products • viral marketing is a low-costor method of promotion global audiences

Qu	Part		Marking Guidance	Total marks	AO
16		Describe t make a ya	wo ways that different fibres can be combined together to irn.	4 marks	AO4 1a
		3–4 marks	In this mark band, there is a very good explanation of the ways that different fibres can be combined together to make a yarn. At the top end, the response includes accurate and relevant information of two processes. At the low end, there may be a lack of detail, with slight inaccuracy, but there will be a good overall awareness of each process.		
		1–2 marks	In this mark band, there is a basic explanation of the ways that different fibres can be combined together to make a yarn. At the top end, the response demonstrates a limited knowledge of one, or both processes, with some inaccuracies. At the low end, points are mostly generic, with some confusion and lack of understanding of the two processes.		
		0 marks	No response or nothing worthy of credit.		
		 A sheat usually 			
		Two orThe difference	or mixing: more fibres are combined together at the fibre stage. erent fibres are blended or mixed together, they are and then spun to make a yarn.		

 The fibres must be the same length, eg filament fibres must be cut down to the same length as staple fibres.
 Multi filament yarn: Two or more fibres are combined together at the spinning stage. Continuous filament fibres are combined by twisting the two together to make a multi-filament yarn, eg nylon and polyester.
Award any other valid responses.

Qu	Part		Marking Guidance	Total marks	AO
17			e opportunities and risks for entrepreneurs when setting ashion business.	6 marks	AO3 2a AO3 2b
		5–6 marks	Detailed discussion of the opportunities and risks for entrepreneurs when setting up a new fashion business. The response is perceptive and the information is accurate and includes a wide range of appropriate points. A balanced analysis and evaluation of both the opportunities and risks, which are discussed in fairly equal measure. There may be a lack of detail at the low end of the mark band, however there is a good overall understanding.		
		3–4 marks	Good discussion of the opportunities and risks for entrepreneurs when setting up a new fashion business. The response is fairly perceptive and the information is mostly accurate and includes some appropriate points. An attempt to evaluate the opportunities and risks to a business when working with an entrepreneur is made, but may not be given in equal measure. There is likely to be a lack of detail and understanding of the issues at the low end of the mark band.		
		1–2 marks	Basic discussion of the opportunities and risks for entrepreneurs when setting up a new fashion business. Information may include few points, but these will lack accuracy and overall understanding. There is little or no evaluation of the opportunities and risks to a business when working with an entrepreneur. The response is likely to include irrelevant or confused comments, showing a limited understanding of the issues.		
		0 marks	No response or nothing worthy of credit.		
		Indicative	content		
			ities: eneurs often collaborate with designers, manufacturers or ers to develop brand recognition		

 sales and profits are likely to increase marketing opportunities become greater with a creative approach to a business
 new product ranges can be developed that focus on niche products or those for a specific target market group business becomes more flexible in responding to customer demands
 entrepreneurs often take an unconventional approach, resulting in bold decisions to develop and expand a business.
Risks:
 the financial investment may be high, and could jeopardise the business
 costs for implementing new ideas and developing product ranges can be high
 there needs to be an effective supply chain, otherwise products can be of poor quality or can be delayed in production or delivery
 it may take a long time to establish a new fashion business or brand
 unsold garments may result in discounted products, that make little or no profit
 entrepreneurs may lose interest if the business grows slowly or profit is not made quickly.
Award any other valid responses.

Qu	Part	Marking Guidance	Total marks	AO
18 Stem		Figure 2	N/A	N/A

Qu	Part	Marking Guidance	Total marks	AO
18	1	Show that $2x^2 - 45x - 2025 = 0$	4 marks	AO4 1c
		Show your working. Note for all methods below: The final answer is given so you must see each line of working to b able to award the relevant marks. Here the answer only = 0 marks. Method 1 – use of full circle and use of π π does not have to be in the exact position in each term, eg condone $9x^2\pi$ or $\pi 9x^2$ for $9\pi x^2$ $\pi(90 + x)^2 = 9\pi x^2$ 1 mark (M) $\pi(x^2 + 180x + 8100) = 9\pi x^2$ or 1 mark (M) $\pi x^2 + 180\pi x + 8100\pi = 9\pi x^2$		
		$\pi(8x^2 - 180x - 8100) = 0$ 1 mark (M) or		

$8\pi x^2 - 180\pi x - 8100\pi = 0$		
shows cancelling or division by 4 to give	1 mark (A)	
$2x^2 - 45x - 2025 = 0$		
Method 2 – use of full circle and cancels or ig approach)	nores π (valid	
$(90 + x)^2 = 9x^2$	1 mark (M)	
$x^2 + 180x + 8100 = 9x^2$	1 mark (M)	
$8x^2 - 180x - 8100 = 0$	1 mark (M)	
shows cancelling or division by 4 to give $2x^2 - 45x - 2025 = 0$	1 mark (A)	
Method 3 – use of quarter circle and use of π π does not have to be in the exact position in each eg condone $\frac{9x^2\pi}{4}$ or $\frac{\pi 9x^2}{4}$ for $\frac{9\pi x^2}{4}$	ch term,	
$\frac{\pi(90+x)^2}{4} = \frac{9\pi x^2}{4}$	1 mark (M)	
$\frac{\pi(x^2 + 180x + 8100)}{4} = \frac{9\pi x^2}{4}$ or $\frac{\pi x^2 + 180\pi x + 8100\pi}{4} = \frac{9\pi x^2}{4}$	1 mark (M)	
$\frac{\pi(8x^2 - 180x - 8100)}{4} = 0$ or $\frac{8\pi x^2 - 180\pi x - 8100\pi}{4} = 0$	1 mark (M)	
work seen for 3 method marks and states $2x^2 - 45x - 2025 = 0$	1 mark (A)	
Method 4 – use of quarter circle and cancels approach)	or ignores π (valid	
$\frac{(90+x)^2}{4} = \frac{9x^2}{4}$	1 mark (M)	
$\frac{x^2 + 180x + 8100)}{4} = \frac{9x^2}{4}$	1 mark (M)	

$\frac{8x^2 - 180x - 8100)}{4} = 0$	1 mark (M)		
work seen for 3 method marks and states $2x^2 - 45x - 2025 = 0$	1 mark (A)		
Combinations of methods			
It is possible to begin with a method involving π , realis is irrelevant, and continue without π .	e it cancels or		
It is possible to combine marks for methods 1 and 2 o and 4 for up to full marks.	r methods 3		
	4 work seen for 3 method marks and states $2x^2 - 45x - 2025 = 0$ Combinations of methods It is possible to begin with a method involving π , realist is irrelevant, and continue without π . It is possible to combine marks for methods 1 and 2 o	4 work seen for 3 method marks and states $2x^2 - 45x - 2025 = 0$ 1 mark (A) Combinations of methods It is possible to begin with a method involving π , realise it cancels or is irrelevant, and continue without π . It is possible to combine marks for methods 1 and 2 or methods 3	4 work seen for 3 method marks and states $2x^2 - 45x - 2025 = 0$ 1 mark (A) Combinations of methods It is possible to begin with a method involving π , realise it cancels or is irrelevant, and continue without π . It is possible to combine marks for methods 1 and 2 or methods 3

Qu	Part	Marking Guidance		Total marks	AO
18	2	Solve the equation $2x^2 - 45x - 2025 = 0$ to find the	e value of x.	2 marks	AO4 1c
		Show your working.			
		As a general principle, a correct response is awarde	ed full marks.		
		Uses quadratic formula at least as far as $\frac{45 \pm \sqrt{(-45)^2 - (4 \times 2 \times -2025)}}{2 \times 2}$			
		or Factorises quadratic to give $(2x + 45)(x - 45)$	1 mark (M)		
		(x =) 45 cm	1 mark (A)		

Qu	Part		Marking Guidance	Total marks	AO
19		-	nd evaluate the impact of the six Rs of sustainability for nd consumers of fashion and textile products.	9 marks	AO3 2a AO3 2b
		7–9 marks	Detailed analysis and evaluation of the impact of sustainability on retailers and consumers of fashion and textile products. Response gives a wide range of appropriate points, including a balanced analysis that refers fairly equally to both benefits and drawbacks. Information is mostly accurate and is perceptive in its awareness of the issues. At the lower end of the mark band, there may be a slight lack of detail, however there will be an overall understanding of the impact of the 6Rs of sustainability.		
		4–6 marks	Good analysis and evaluation of the impact of sustainability on retailers and consumers of fashion and textile products. Response gives some appropriate points, with many benefits, and only a few drawbacks. Information is fairly accurate, and shows some awareness of the issues. At the lower end of the mark band, there may be a lack of detail and some inaccuracies, but there will be some understanding of the impact of the 6Rs of sustainability.		
		1–3 marks	Basic analysis and evaluation of the impact of sustainability on retailers and consumers of fashion and textile products. Response gives a limited number of points, that may not reference any negative issues. Information lacks accuracy, with limited awareness of the issues. At the lower end of the mark band, there is confusion, and very little understanding of the impact of the 6Rs of sustainability.		
		0 marks	No response or nothing worthy of credit.		
		Indicative content			
		the envi an eco-f however passed premium reduced	a may choose to sell products that minimise the effects to ronment, by sourcing materials and components made in iriendly way r, these are usually more expensive, with the costs being to the consumer; who may not be prepared to pay a n for these products I packaging may be more attractive to consumers and sts for retailers		
			ers can take existing products and customise or upcycle to lew designs		

 products can be handed down to others. This creates individual pieces, but they may quickly look dated and not appeal to everyone. Small retailers may be able to re-use parts of products, but this may be difficult to replicate on a large scale.
 Rethink: consumers can choose to buy sustainably; many retailers promote the use of organic and natural fibres consumers could buy locally, but many products are sold in large retail outlets or purchase products made in the UK, however, more profit can be made through global manufacture by the retailer consumers are demanding more transparency and retailers are promoting the sustainability of Fairtrade clothing as a selling point.
 Recycle: consumers often throw away unwanted clothing that ends up in landfill. many retailers offer incentives and discounts to consumers to recycle clothing in-store. Materials are broken down and reprocessed into new fabrics, or passed to charities.
 Repair: consumers may choose to repair or alter clothing to fit, extending the life of products and generating less waste however, some pieces may be too difficult to revive, given the cost of clothing can often be cheaper to buy than repair some retailers offer a maintenance and repair service, eg Barbour.
 Refuse: consumers can reduce the amount of fashion products bought, but this if difficult when retailers consistently stock and promote new collections consumers may choose not to buy fast fashion products, and instead buy higher quality and longer lasting garments consumers are encouraged to refuse over-packaged products.
Award any other valid responses.