

Surname	Centre Number	Candidate Number
First name(s)		2



GCE AS

B601U10-1



MONDAY, 13 MAY 2024 – AFTERNOON

DESIGN AND TECHNOLOGY – AS component 1

Fashion and Textiles

2 hours 30 minutes

ADDITIONAL MATERIALS

You will need a ruler and calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

When and where appropriate, answers should be amplified and illustrated with sketches and/or diagrams.

The number of marks is given in brackets at the end of each question or part-question. You are advised to divide your time accordingly.

The number of marks available is 100.

You are reminded of the need for good English and orderly, clear presentation in your answers.

You may use a calculator in this examination.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	8	
2.	13	
3.	8	
4.	14	
5.	10	
6.	5	
7.	12	
8.	9	
9.	9	
10.	12	
Total	100	

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Answer **all** questions.

1. The cotton fibre shown opposite is one of the textile industry's most important and widely used fibres.



- (a) An important property of cotton is absorbency. Using notes and a simple sketch explain how the cotton fibre is able to absorb moisture. [4]

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- (b) Describe in detail **one** other property of the cotton fibre. [1]

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- (c) Towels, like the ones shown below, are constructed from cotton yarns in a pile weave.



Explain how the construction of the pile weave supports the towel's main function. [3]

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2. Many different items of modern clothing contain the fibre elastane.

(a) Using notes and sketches explain how the elastane fibre is incorporated into a yarn. [3]

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(b) (i) Elastane is often incorporated into materials used in modern clothing and sportswear.
The outfit worn by the professional cyclist pictured below, contains elastane.

Describe the advantages to the cyclist of wearing clothing that contains elastane.

[4]



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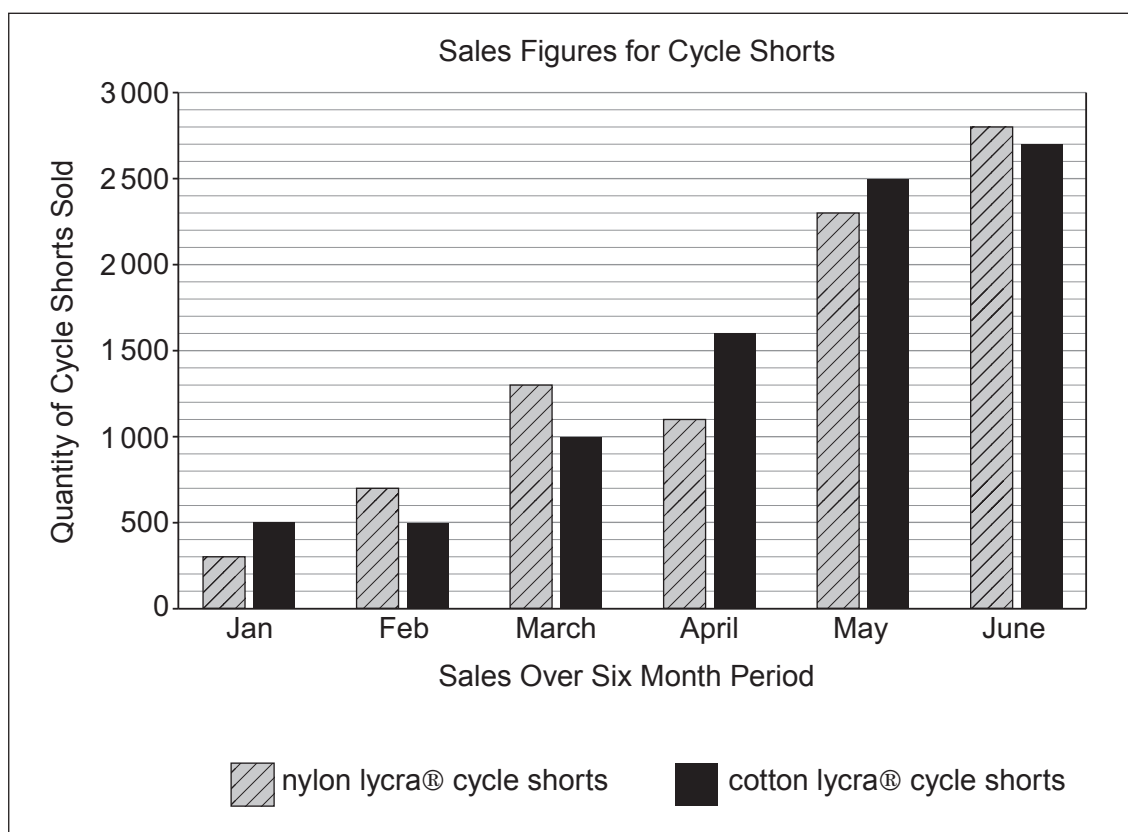


- (ii) Describe **one** way that elastane can improve the performance of a linen dress. [1]

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- (c) Study the chart below which shows the sales figures for two types of cycle shorts over a six month period.



- (i) Using the data from the table state which type of shorts had the least number of sales over the six month period. [1]

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- (ii) Calculate as a percentage (%) the increase in sales of cycle shorts for May and June when compared to the sales in the first four months. [4]
Show all your workings.

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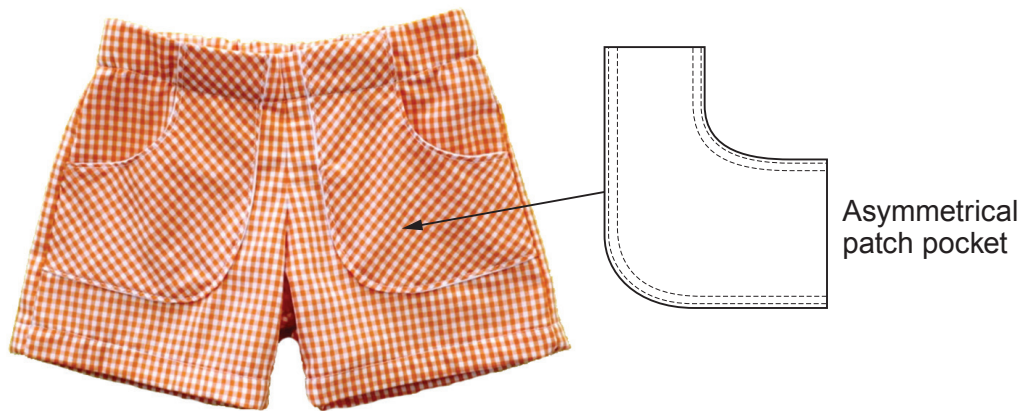


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3. The children's shorts pictured below feature an asymmetrical patch pocket.



- (a) Using notes and sketches, describe in detail the construction process of making and attaching the patch pocket to the shorts. [4]

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- (b) As the shorts are to be mass produced the manufacturer has decided to use an overlocker to finish all the internal seams. Explain why this is the best method to use. [4]

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4. A textile designer is developing a new range of soft furnishing products.

- (a) (i) State the full name of the regulation that all soft furnishing products must comply with. [1]

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- (ii) Describe in detail what this regulation means and how it protects consumers. [3]

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- (b) The designer needs to develop a template for an eight sided cushion that is part of the new collection. The cushion is symmetrical along the lines **a-b** and **c-d** as shown below.

Calculate the length in centimetres of the diagonal side marked **X**. [5]

Show all your workings.

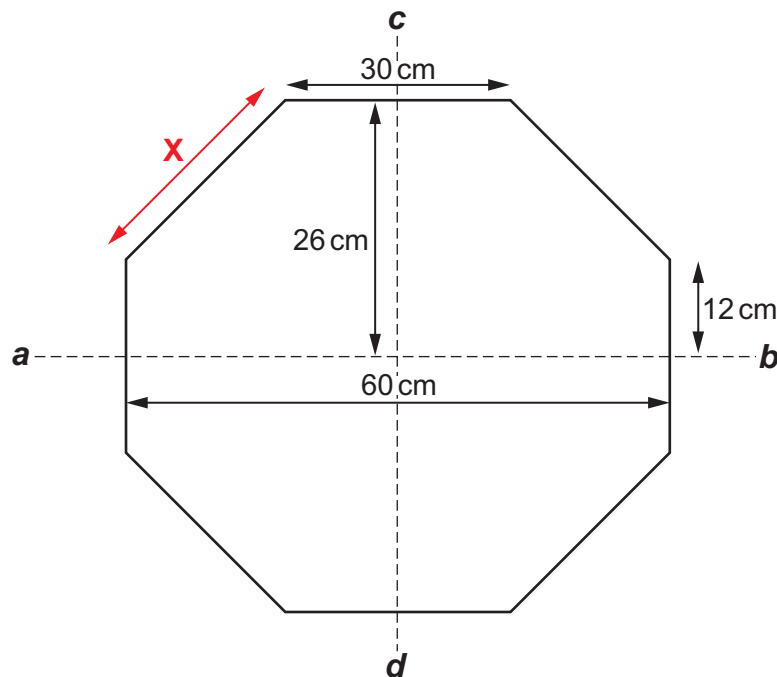


Diagram not drawn to scale



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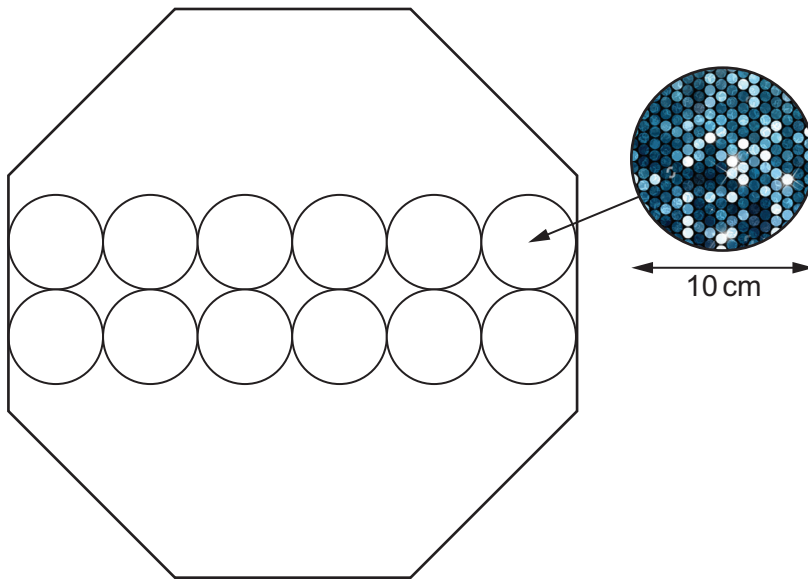
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- (c) The front of the eight sided cushion will be embellished with circles encrusted with sequins, as shown below.



- 25 000 sequins are needed to cover one square metre of fabric.
- The sequins are sold in boxes containing 5000 sequins.

Calculate how many boxes of sequins will be needed to complete a batch of 50 cushions.
Show all your workings.

[5]

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5. The children's pyjamas pictured below are made from a polyester cotton fibre blend.



- (a) Describe the advantages of using a fibre blend such as polyester cotton to make the pyjamas. [5]

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(b) An alternative fabric to use for the pyjamas is brushed cotton.

(i) Describe the industrial process of brushing the cotton material.

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(ii) Describe the advantages to the wearer of using a brushed material for the pyjamas.

[3]

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6. The dress shown below is part of an 'Haute Couture' collection.



Explain what is meant by Haute Couture and how it differs from Prêt-à-Porter.

[5]

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7. Nano technology has led to many innovative new developments in fibre and material technology.

(a) Analyse the impact that microencapsulation has had in medical textiles.

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(b) Evaluate the use of electronics when incorporated into sportswear.

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Evaluate how a disassembly activity might benefit a designer when developing new fashion and textile products.

[9]



9. Sustainable design is the philosophy of designing with the intention of reducing or eliminating environmental impact.

Analyse what a fashion and textile designer should consider when developing new products in order to comply with this philosophy. Exemplify your answer. [9]

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- Explain how a fashion designer should utilise the iterative process when developing a new range of fashion products.

[12]



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