



Oxford Cambridge and RSA

**Monday 16 May 2022 – Afternoon**

**AS Level in Design and Technology:  
Fashion and Textiles**

**H005/01 Principles of Fashion and Textiles**

**Time allowed: 1 hour 45 minutes**



**You can use:**

- a ruler (cm/mm)
- a set square
- geometric instruments



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

### INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- Answer **all** the questions.
- Where appropriate, your answer should be supported with working. Marks might be given for using a correct method, even if your answer is wrong.

### INFORMATION

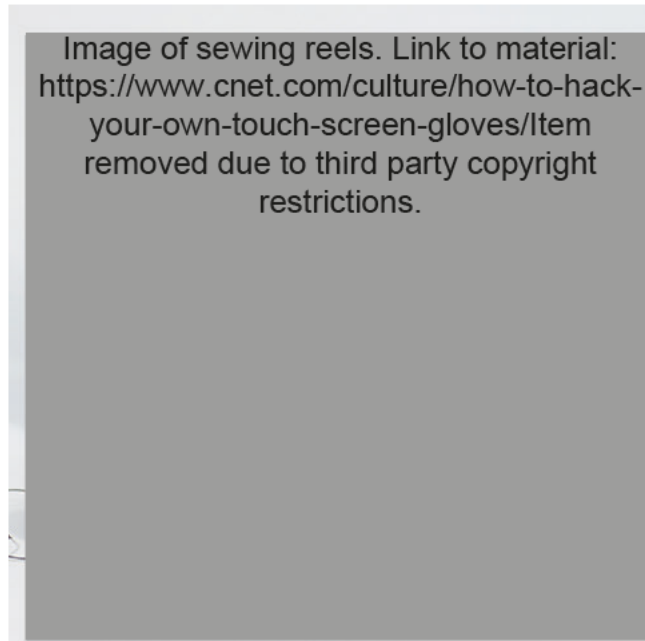
- The total mark for this paper is **90**.
- The marks for each question are shown in brackets [ ].
- Quality of extended response will be assessed in questions marked with an asterisk (\*).
- This document has **24** pages.

### ADVICE

- Read each question carefully before you start your answer.

Answer **all** the questions.

- 1 Fig. 1.1 shows spools of conductive sewing threads.



**Fig. 1.1**

- (a) (i) Conductive sewing threads can be coated using various metals.

State **two** metals that are suitable for this process.

1 .....

2 ..... [2]

- (ii) Conductive sewing threads are capable of conducting electricity.

Give **two other** performance characteristics of conductive sewing threads.

1 .....

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2 .....

..... [2]

- (b) Conductive sewing threads can be spun using a blend of conductive metal and non-conductive cotton fibres.

State **two** reasons why cotton is a suitable fibre to blend with a conductive metal to create a conductive sewing thread.

Justify **each** of your answers.

1 .....

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[4]

- (c) Designers can use conductive threads in a wide range of textile applications.

Explain **two** factors a designer needs to consider when evaluating how conductive threads improve functionality for the user.

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[4]

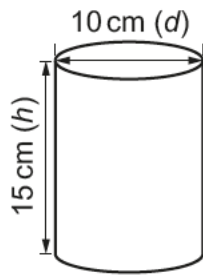
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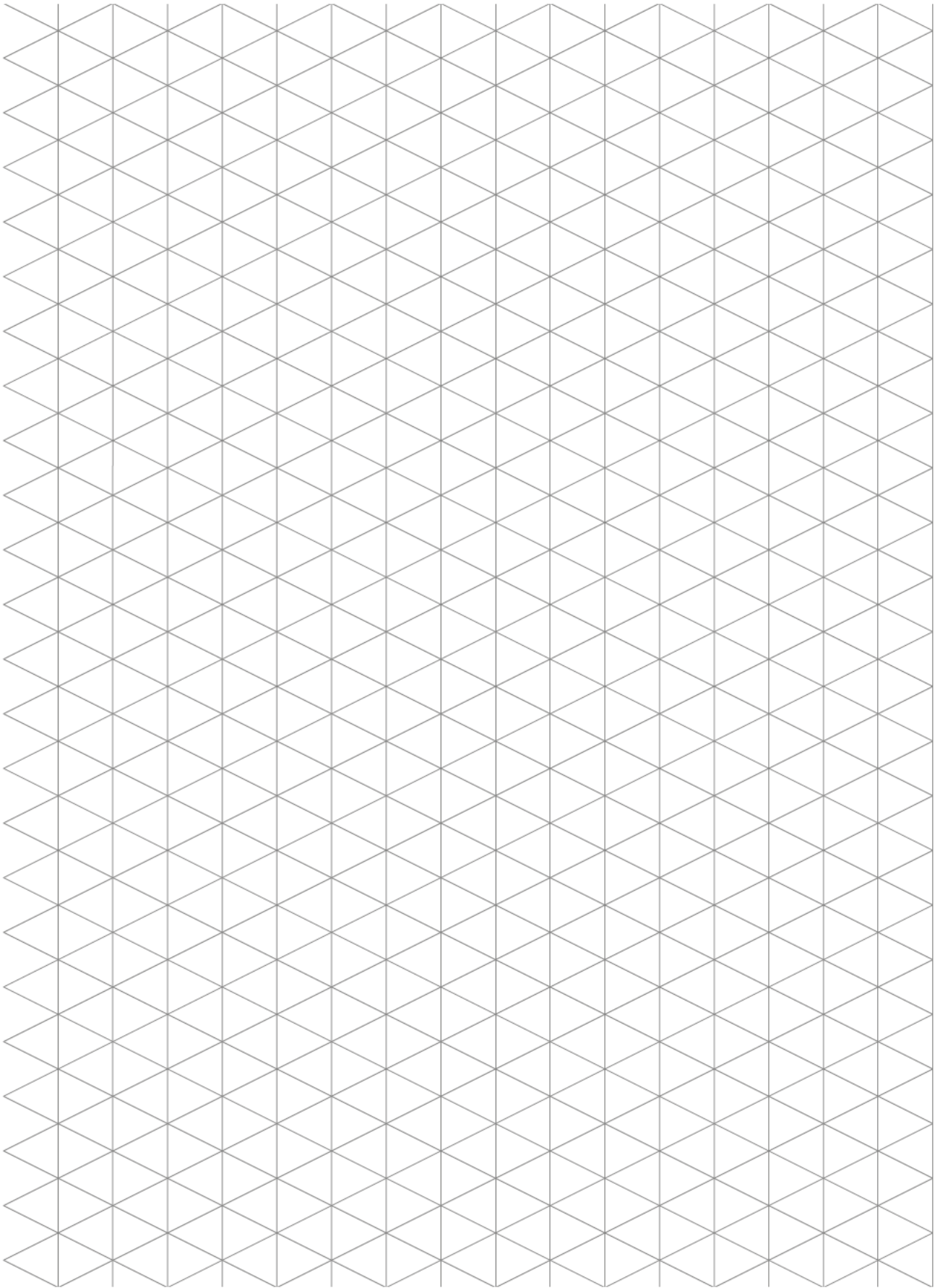
- 2 A company is looking to extend its product range with the design and manufacture of lampshades.

(a) The design team explores the demand for a cylindrical lampshade as shown in **Fig. 2.1**.



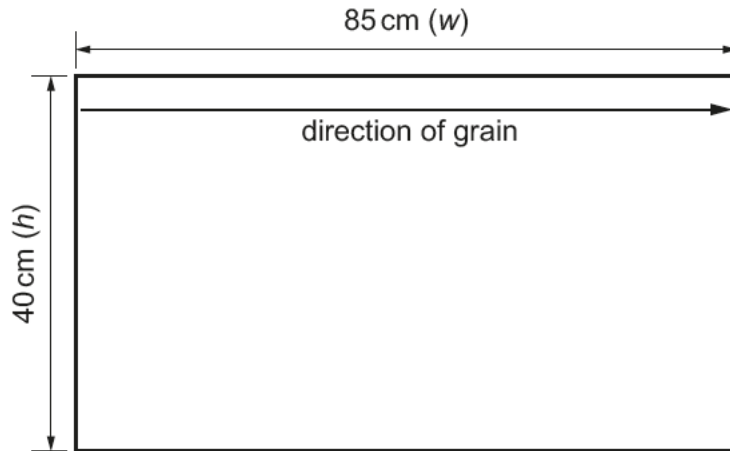
**Fig. 2.1**  
(not to scale)

Use the 1-cm isometric graph paper **on the page opposite** to draw the isometric projection of this lampshade. Include the dimensions and any construction lines. **[3]**



(b) The design team investigates the material required for another of its lampshade designs.

The pattern template for one of these lampshades is shown in **Fig. 2.2**.



**Fig. 2.2**  
(not to scale)

- The material does not contain a design.
- The pattern templates are laid out to follow the grain of the material which goes from left to right.
- 15 of these pattern templates will be laid out on the material 3 across the width of the material and 5 down.
- A 7 mm tolerance is needed around the edge of the material and a 7 mm tolerance is needed between each pattern template.

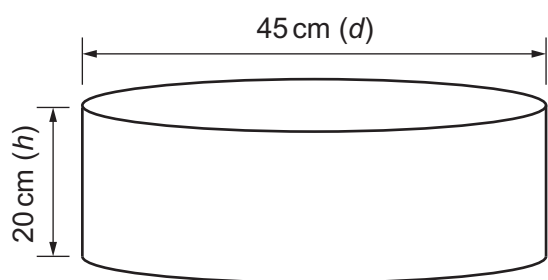
Calculate the minimum width ( $w$ ) and minimum height ( $h$ ) of material in cm that is required to manufacture 15 lampshades. Show your working. **[4]**



Minimum width ..... cm

Minimum height ..... cm

- (c) The design team considers **two other** cylindrical based lampshades. The dimensions of the larger lampshade are shown in **Fig. 2.3**.



**Fig. 2.3**  
(not to scale)

The ratio of the smaller to larger version is 7:8.

Calculate the dimensions of the smaller lampshade in cm to **0** decimal places. Show your working.

**[3]**

$d$ ..... cm

$h$ ..... cm

- (d) **Table 2.4** shows a partially completed frequency density table that has been produced to show the sales of lampshades of different sizes.

- (i) Complete the missing information in **Table 2.4**.

[2]

Lampshade diameter ( $d$ ) cms	Frequency	Frequency density
$10 \geq d \leq 25$	135	
$25 > d \leq 35$	260	
$35 > d \leq 50$	270	
$50 > d \leq 60$	170	

**Table 2.4**

- (ii) Use the graph paper to draw a histogram from this information. Label **both** axes.

[2]



3 Fig. 3.1 shows a one-off, bespoke chair which has been decorated with appliqué buildings.

Fig. 3.2 shows an enlarged image of part of the chair.



Fig. 3.1



Fig. 3.2

- (a) Use annotated sketches and/or notes to show how to work **one** of the machine stitched appliqué buildings onto the fabric of the chair.

Include any relevant equipment, machinery and materials.

[6]



- (b) In the production of the one-off, bespoke chair the manufacturer must consider the safety of the workforce.

Give **one** example of current legislation that protects workers within a workshop environment.

Justify your answer.

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..... [2]

- (c) Explain **one** advantage and **one** disadvantage to the consumer of purchasing one-off, bespoke furnishing products, such as the chair.

Advantage .....

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Disadvantage .....

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[4]

**(d)** Advertising is a strategy used to attract a potential target market to a new product.

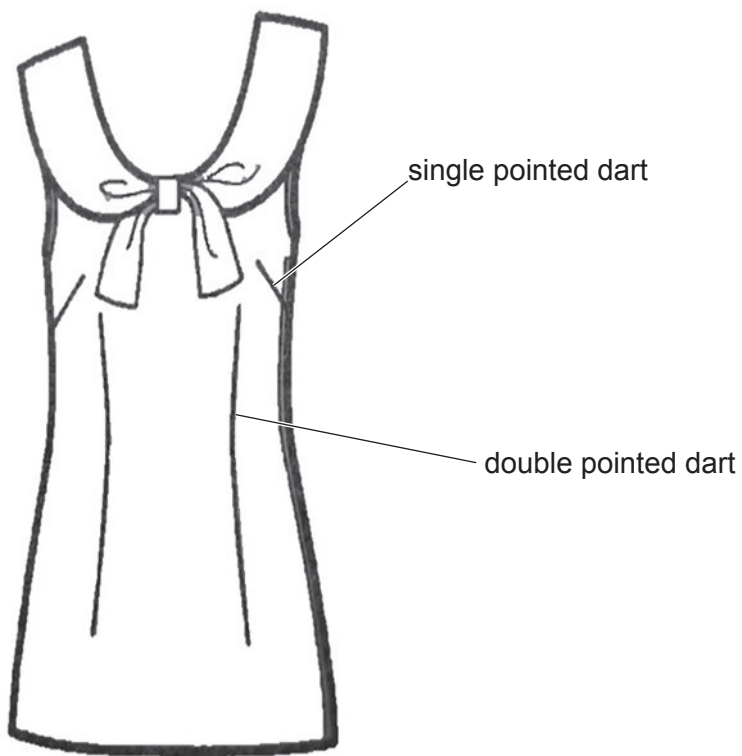
Discuss the benefits and drawbacks to the retailer of using different media channels to advertise the chair.

..... [6]

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4 Fig. 4.1 shows a shift dress featuring **two** types of dart.



**Fig. 4.1**

(a) Darts are one method used to reduce fullness.

Give **two** reasons why darts have been used to reduce fullness in the shift dress in **Fig. 4.1**.

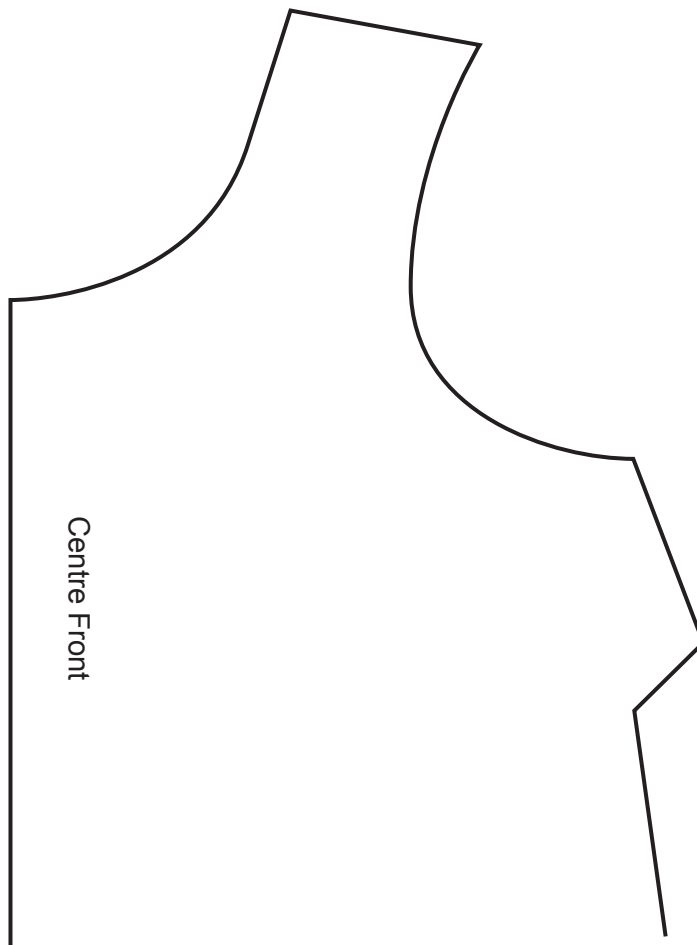
- 1 .....
- .....
- 2 .....
- .....

**[2]**



- (b) (i) The shift dress includes a single pointed dart.

On the pattern piece below, draw the correct position and pattern markings for a single pointed dart. [3]



- (ii) The pattern markings for a single pointed dart need to be transferred from the paper pattern piece to the fabric.

State **one** method used in the textile industry to transfer pattern markings from the paper pattern piece to the fabric.

..... [1]

- (c) The shift dress also includes a double pointed dart.

Use annotated sketches and/or notes to show how to insert a double pointed dart into the front of the shift dress.

Include any relevant equipment, machinery and materials.

**[6]**

- (d) The designer wants to develop the style of the shift dress by including **two** additional methods of reducing fullness to appeal to a wider audience.

State **two** modifications that could be made.

Justify **each** of your answers.

1 .....

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[4]

- (e) Once manufactured, the shift dress is to be finished using a steam dolly.

Explain **one** advantage of using a steam dolly in the garment finishing process.

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[2]

- (f) Explain **three** ways in which developments in manufacturing processes and/or fibres and fabrics have made it easier to include reduction of fullness techniques in textile products.

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[6]

5 Fig. 5.1 shows a necklace made from multiple materials.



Fig. 5.1

- (a) The necklace includes yarn to stabilise and secure some of the beads in position.

Describe **one** technique that would be suitable for this process.

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..... [2]

- (b) Describe **two** factors a designer would need to consider when choosing multiple materials to make the necklace.

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[4]

[8]

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