

Please write clearly, in block capitals.

Centre number

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Candidate number

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Surname

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Forename(s)

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Candidate signature

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# A-level DESIGN AND TECHNOLOGY (FASHION & TEXTILES)

Paper 1 – Technical Principles

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Date of Exam

Morning

Time allowed: 2h30m

## Materials

For this paper you must have:

- normal writing and drawing instruments
- a scientific calculator

## Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

## Information

- The marks for questions are shown in brackets
  - The maximum mark for this paper is 120
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**2**

With reference to the Health and safety at work act 1974, explain the health and safety responsibilities of an employer to ensure workers are safe when working with textiles.

**[9 marks]**

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**4**

The cost of fabric from Company A for 250 pairs of denim jeans is £1260.  
17% of the fabric is waste.

The cost of fabric from Company B for 200 pairs of jeans is £1350.  
One-eighth of the fabric is waste.

Which company is the most cost effective?

Show your working out.

**[3 marks]**

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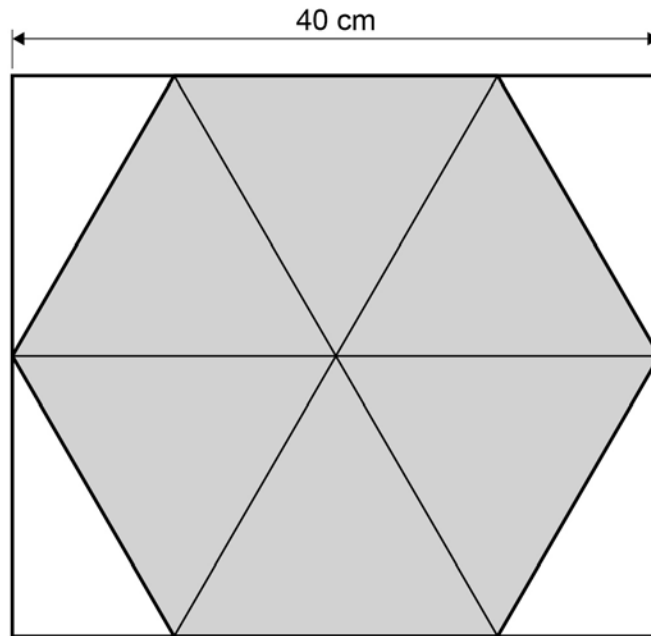
Discuss cultural factors facing a designer today.

**[12 marks]**



8 . 1

The rectangular cushion shown below has a hexagonal patchwork pattern. The cushion width is 40cm. Each of the six equilateral triangles is identical. What is the height of the cushion? Give your answer to 1 decimal place. Show your working out.

**[4 marks]**


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The cost of the materials for the cushion is £2.75.  
The manufacturer wants to add piping around the outer edges of the cushion.  
The trim costs 90p per metre.

What will be the percentage increase in the cost of materials if the trim is added?

**[2 marks]**

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**10**

Explain why dye sublimation printing is suitable for polyester fabric.

**[6 marks]**

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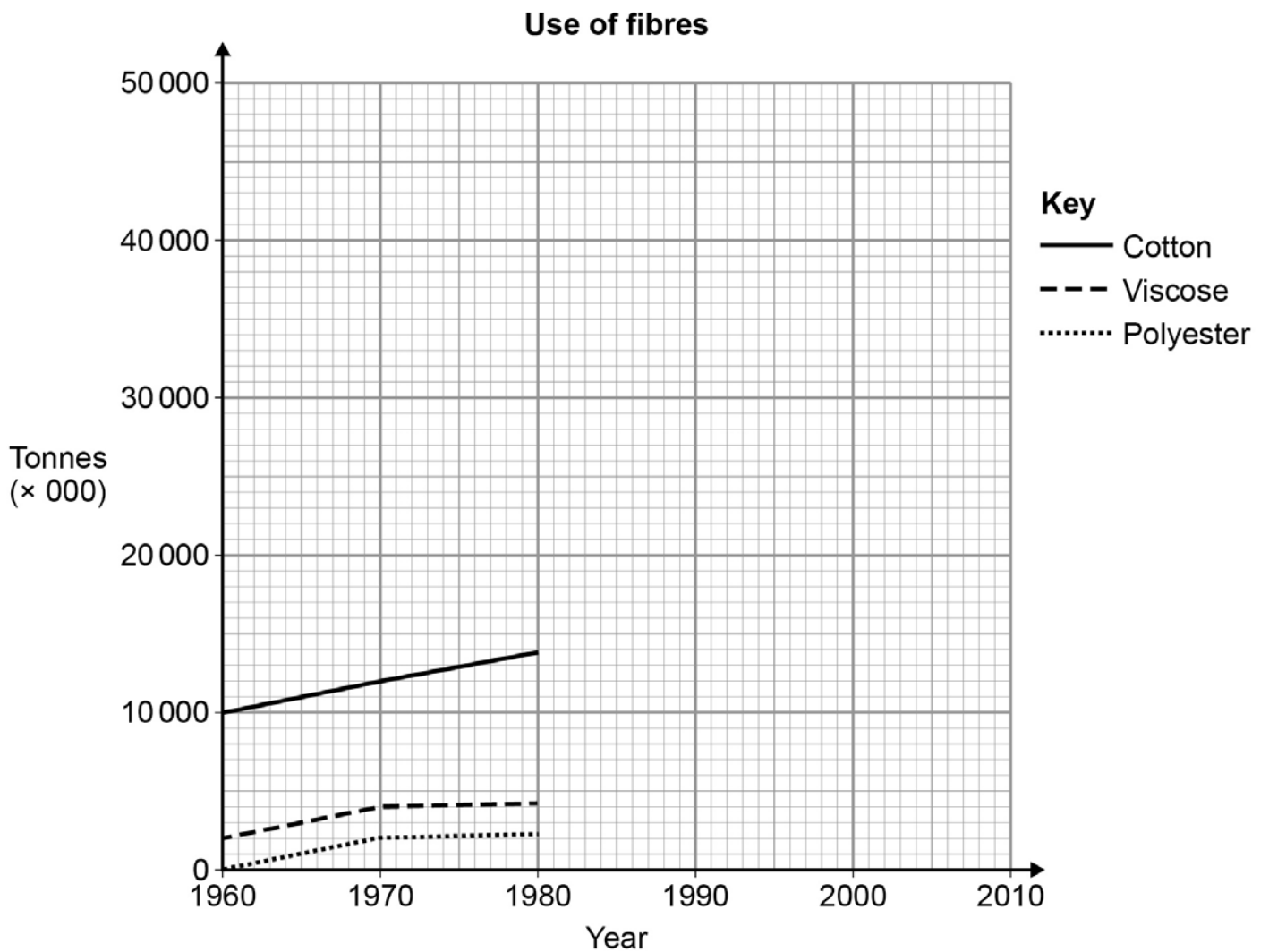
11 .1

Study the data shown in the table below.

Use of fibres in textiles manufacturing 1990-2010 in tonnes (x 000)			
	Cotton	Viscose	Polyester
1990	17941	1764	22679
2000	20671	2995	30288
2010	23700	4811	49765

Complete the graph using the data given.

[1 mark]



Turn over ▶

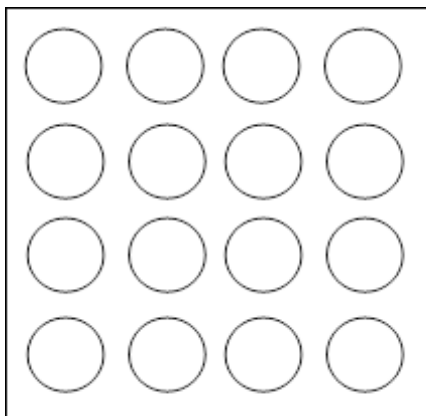




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**13 . 1**

A manufacturer cuts 16 circular printed logos out of fabric which is 30cm by 30cm



Each logo is spaced 1.5cm from each other and the edges of the fabric.

What is the area of the waste fabric after the 16 logos are removed?

**[3 marks]**

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**13 . 2** What is the total length cut around the edges of the 16 logos?

**[1 mark]**

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**13 . 3** The 16 logos cut will form the ends of 8 pencil cases.  
Each pencil case will be 20cm long  
What is the total area of fabric required for the 20cm long pencil cases?  
Give your answer in number of whole metres required from a 1m wide roll of fabric.

**[1 mark]**

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**END OF QUESTIONS**

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9 February 2017