



Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

I declare this is my own work.

A-level

DESIGN AND TECHNOLOGY: FASHION AND TEXTILES

Paper 1 Technical Principles

Monday 2 June 2025

Morning

Time allowed: 2 hours 30 minutes

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.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

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

For Examiner's Use	
Question	Mark
1–2	
3	
4	
5	
6	
7–8	
9	
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12–13	
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15–16	
17	
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19	
20	
TOTAL	



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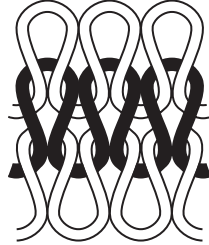
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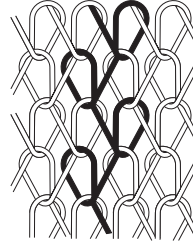
Answer **all** questions in the spaces provided.

0 1

Figure 1



A



B

Identify the two fabric structures shown in **Figure 1**.

[2 marks]

A _____

B _____

0 2

Complete **Table 1** by inserting the appropriate term from the list below into the correct category.

Do **not** use any term more than once.

Metallic yarn

Microfibre

Nano-fibre

Phase-change fabric

Photochromic dye

Ramie fabric

[4 marks]

Table 1

Smart materials	Modern materials



0 3 . 1 Describe the **properties** of terry towelling fabric.

[3 marks]

0 3 . 2 Describe the **characteristics** of herringbone fabric.

[3 marks]

0 3 . 3 Describe the **structure** of quilted fabric.

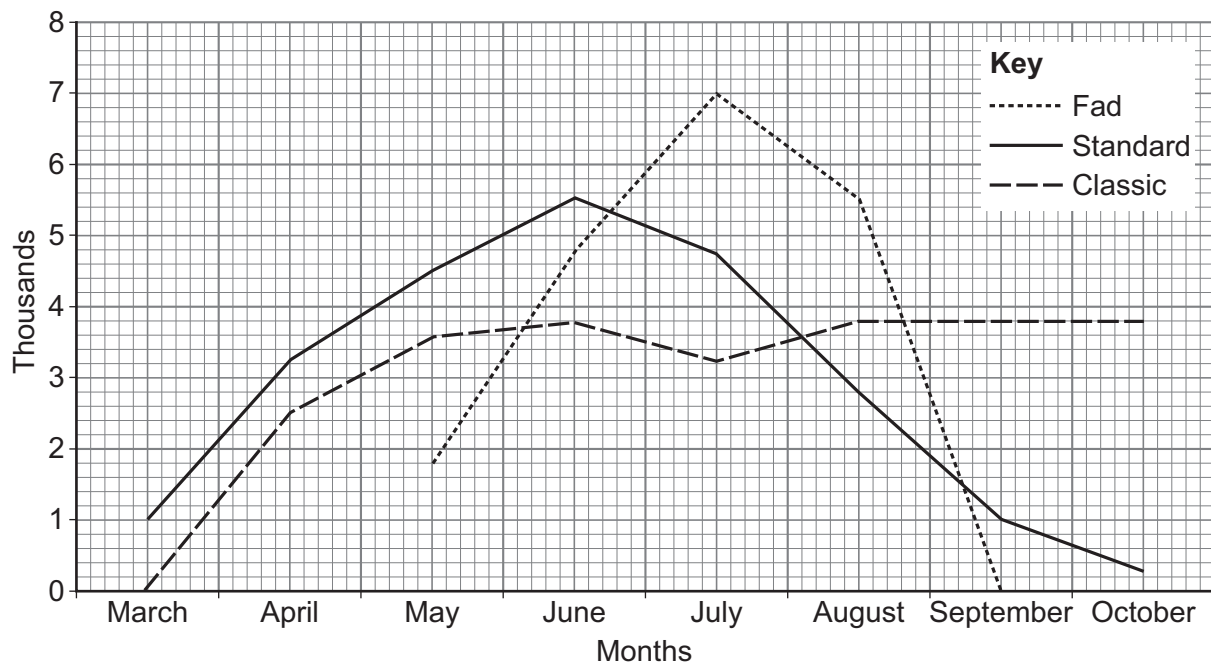
[3 marks]



0 4

Figure 2

Volume of sales for three fashion cycles

Using the data in **Figure 2**:

0 4 . 1

Calculate the total amount of sales for the period March to August for a standard cycle.

[2 marks]

Answer _____



0	4	.	2
---	---	---	---

Calculate the percentage increase in sales for the fad cycle between June and July.

[3 marks]

Answer _____ %

5

Turn over for the next question**Turn over ►**

[6 marks]

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3



6

Fibre content label for a knitted jacket

Explain how the fibre content in **Figure 3** enhances the properties of a knitted jacket. **[9 marks]**

[illegible]

9

0 7

Name **two** fancy yarns.**[2 marks]**

1 _____

2 _____

0 8

Synthetic fibres are made as continuous filaments.

Explain how the **properties** of synthetic fabrics are affected by the structure of the filaments.**[4 marks]**

6

0 9

Figure 4 shows a skirt made using computer aided manufacture (CAM).**Figure 4**

[9 marks]

[illegible]

9

1 0 . 1 A skirt uses 3.85 m of thread for garment construction.

90% more thread is used for the embroidered decoration.

Calculate the amount of thread needed for the embroidered decoration for one skirt.

Give your answer to the nearest cm.

Show your working out.

[2 marks]

Answer _____ cm

1 0 . 2 A different skirt uses 4.63 m of thread.

A reel holds 200 m of thread.

Calculate how many reels of thread are needed for a batch of 10 450 skirts.

Show your working out.

[3 marks]

Answer _____



1 0 . 3 A machine takes 8.50 minutes to complete the decorative embroidery on one skirt.

It costs £14.85 per hour to run the machine.

Calculate the cost of the decorative embroidery on a batch of 245 skirts.

Give your answer to the nearest penny.

Show your working out.

[3 marks]

Answer £ _____

8

Turn over for the next question

Turn over ►



Discuss the **moral** issues that can arise from:

- [9 marks]**

[illegible]

9



1	2
---	---

Give **three** reasons why copyright is important to designers.

[3 marks]

1 _____

2 _____

3 _____

1	3
---	---

Explain the safety measures that must be put into place when handling and working with hazardous substances in a factory setting.

[6 marks]

9

Turn over ►



[9 marks]

[illegible]

9



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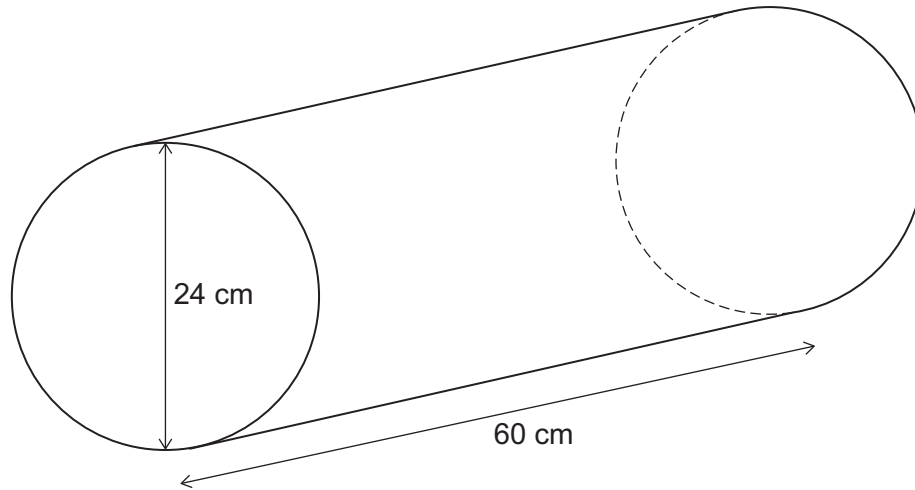


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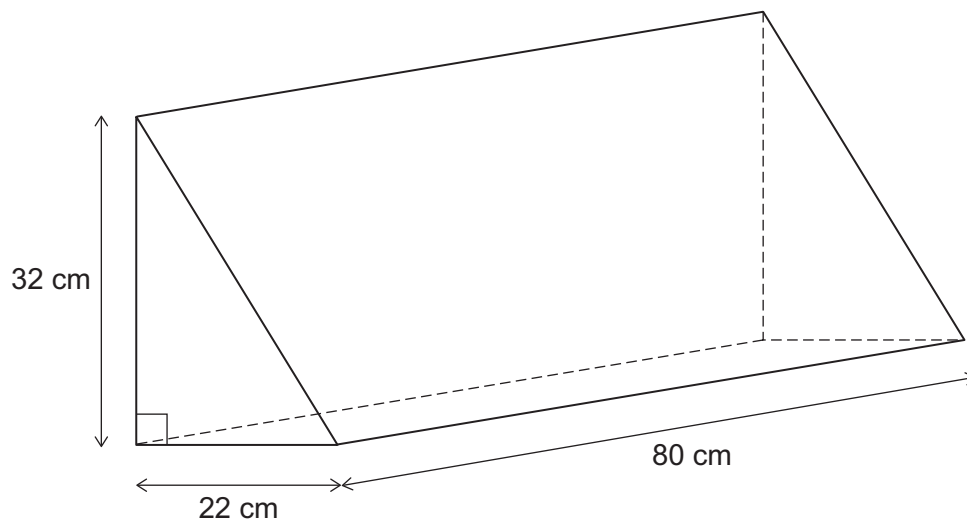
Figure 5 shows the dimensions of two different cushions, Cushion **A** and Cushion **B**.

Figure 5

Cushion A



Cushion B



Formula for volume of a cylinder: $V = \pi r^2 h$



Calculate the volume of each cushion in **Figure 5**.

State which cushion has the smaller volume.

You **must** show your working out.

[3 marks]

Answer _____

1	6
---	---

Explain the benefits of trade fairs for designers.

[4 marks]

7

Turn over ►



Analyse and evaluate the environmental benefits of using new generation Lyocell® instead of cotton fibres.

[illegible]

[6 marks]

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6

Turn over ►



1	9
---	---

A coat uses 185 cm of outer fabric and 146 cm of lining fabric.

Cost of outer fabric	£5.14 per m
Cost of lining fabric	£2.32 per m

Calculate the cost of all fabrics for 945 coats.

Show your working out.

[4 marks]

Answer £ _____

4



2	0
---	---

Explain the differences between underlining and interfacing.

[6 marks]

6

END OF QUESTIONS



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[illegible]

[illegible]

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