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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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I declare this is my own work.

# A-level

# DESIGN AND TECHNOLOGY: FASHION AND TEXTILES

## Paper 1 Technical Principles

Wednesday 5 June 2024

Afternoon

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                  |      |
| 9–10               |      |
| 11–12              |      |
| 13                 |      |
| 14                 |      |
| 15                 |      |
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| 18                 |      |
| 19                 |      |
| 20                 |      |
| 21                 |      |
| <b>TOTAL</b>       |      |



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

0 1

Complete **Table 1** by inserting the correct textile term from the list below next to its description.

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

[6 marks]

Bouclé                      Chambray                      Corduroy                      False twist  
Herringbone                      Madras                      Organdie                      Sateen

**Table 1**

| Description   | Textile Term |
|---|--------------|
| A lightweight crisp fabric with a transparent appearance    |              |
| A yarn with snarls and crinkles made through heat setting   |              |
| A checked pattern made with brightly coloured cotton yarns  |              |
| A three-ply yarn with irregular loops along its length      |              |
| A smooth weft-faced fabric with a very high lustre          |              |
| A cut pile fabric with rows running parallel to the selvage |              |

0 2

Give **three** reasons for using linings in fashion garments.

[3 marks]

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

3 \_\_\_\_\_

\_\_\_\_\_

9

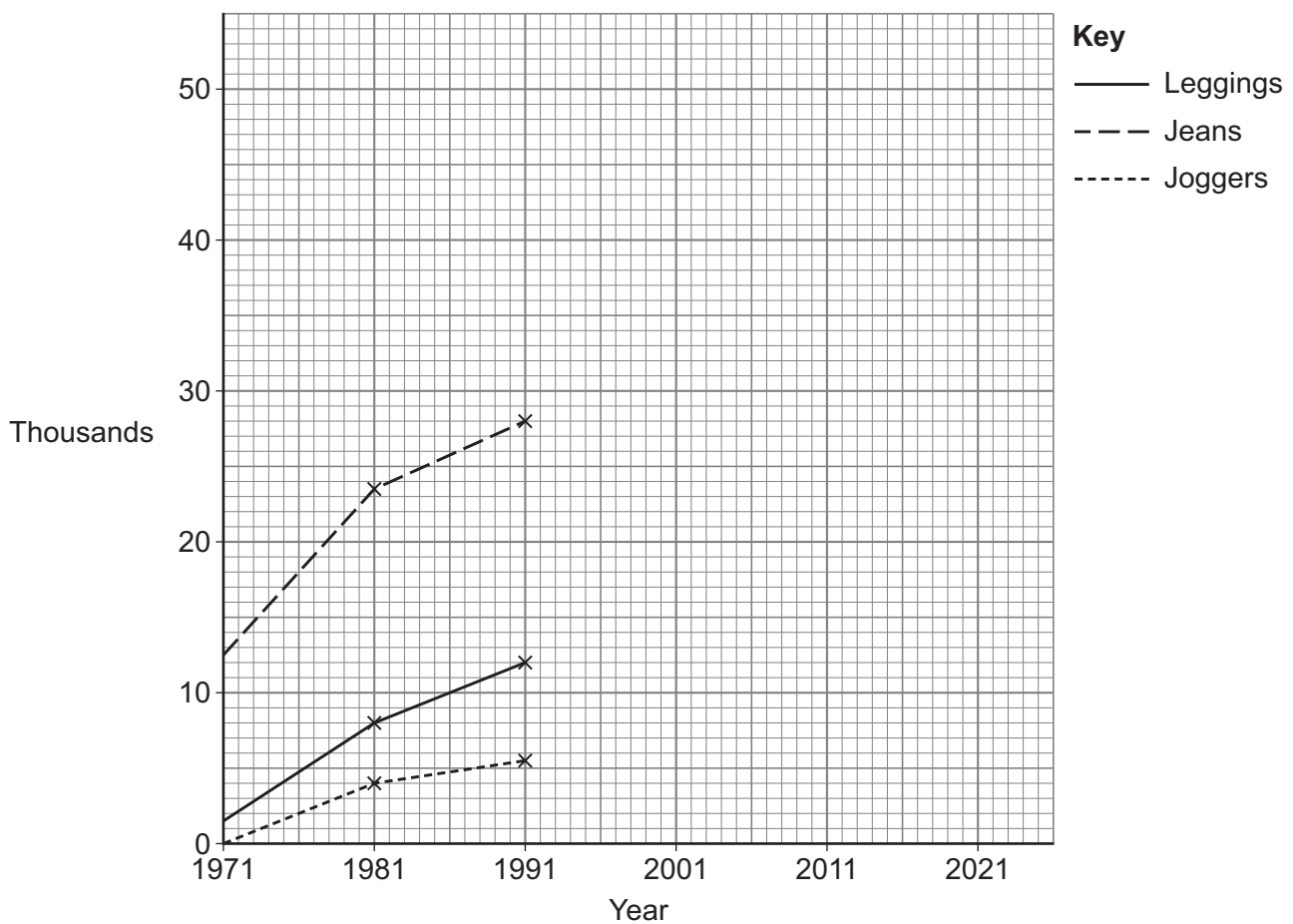




0 4

Study the data shown in **Table 2**.**Table 2****Sales of different trouser types 2001–2021 in thousands**

| Year | Trouser type |        |         |
|------|--------------|--------|---------|
|      | Leggings     | Jeans  | Joggers |
| 2001 | 18 500       | 37 500 | 15 000  |
| 2011 | 22 500       | 34 250 | 29 500  |
| 2021 | 24 000       | 31 750 | 43 750  |

Complete the graph using the data given in **Table 2**.**[3 marks]****Sales of different trouser types 2001–2021**

3



0 5

Outline the specific **fabric properties** required in clothing for the following **two** jobs:

- Coffee shop worker
- Racing car driver

**[6 marks]**

Coffee shop worker \_\_\_\_\_

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Racing car driver \_\_\_\_\_

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6

**Turn over for the next question**

**Turn over ►**





0 7

A factory manufactures the hoodie shown in **Figure 1**.**Figure 1**

0 7 . 1

Use the data in **Table 3** to calculate the cost of all materials required to make **one** hoodie.

Put your answer in the table.

**[1 mark]****Table 3**

| <b>Materials</b>     | <b>Cost per metre<br/>in £</b> | <b>Amount required<br/>in m</b> |  |
|----------------------|--------------------------------|---------------------------------|--|
| Double jersey fabric | 3.60                           | 1.2                             |  |
| Cord                 | 1.05                           | 0.8                             |  |
| Ribbing              | 2.20                           | 1.6                             |  |
| Thread               | 0.08                           | 3.5                             |  |
| Answer £             |                                |                                 |  |

**Question 7 continues on the next page****Turn over ►**

**0 7 . 2** The cost of materials for a different hoodie is £11.29.

The manufacturing cost for this hoodie is 56% of the materials cost.

Calculate the amount of profit a retailer makes on a batch of 4500 hoodies retailing at £37.99.

Give your answer to **two** decimal places.

Show your working.

**[4 marks]**

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Answer £ \_\_\_\_\_



**0 7 . 3** A retailer orders a batch of 1420 hoodies. The hoodies are either blue, white or grey in the ratio 5:1:4.

How many grey hoodies are in the batch?

Show your working.

[2 marks]

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Answer \_\_\_\_\_

**0 7 . 4** In a sale, a discount of 25% is offered on a hoodie priced at £37.99.

On the last day of the sale, a further 10% is taken off the discount price.

Calculate the cost of one hoodie to the **nearest penny** after all discounts.

Show your working.

[2 marks]

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Answer £ \_\_\_\_\_

Turn over ►







0 9

Give **three** different types of mechanical finishes.

[3 marks]

1 \_\_\_\_\_  
\_\_\_\_\_  
2 \_\_\_\_\_  
\_\_\_\_\_  
3 \_\_\_\_\_  
\_\_\_\_\_

1 0

Outline the differences between the manufacture of **felt** and **needle felt**.

[4 marks]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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7





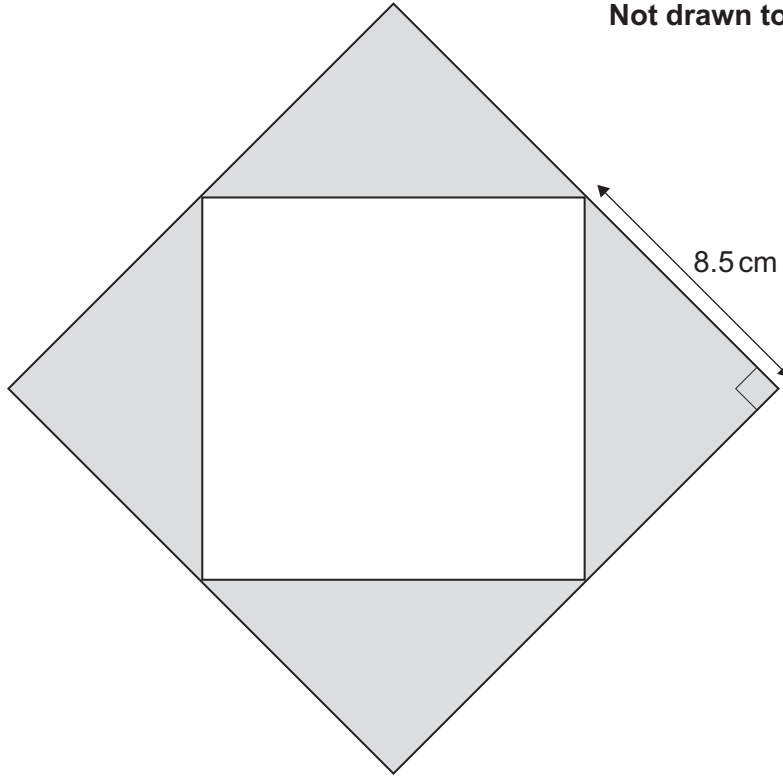
|   |   |
|---|---|
| 1 | 3 |
|---|---|

Calculate the area of the centre square of the quilted pattern shown in **Figure 3**.

**[3 marks]**

**Figure 3**

Not drawn to scale




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\_\_\_\_\_ cm<sup>2</sup>

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|---|
|   |
| 3 |



**1 4 . 1** Give **one** example of a laminated fabric.

**[1 mark]**

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**1 4 . 2** Explain what is meant by a laminated fabric.

**[2 marks]**

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**3**

**Turn over for the next question**

**Turn over ►**



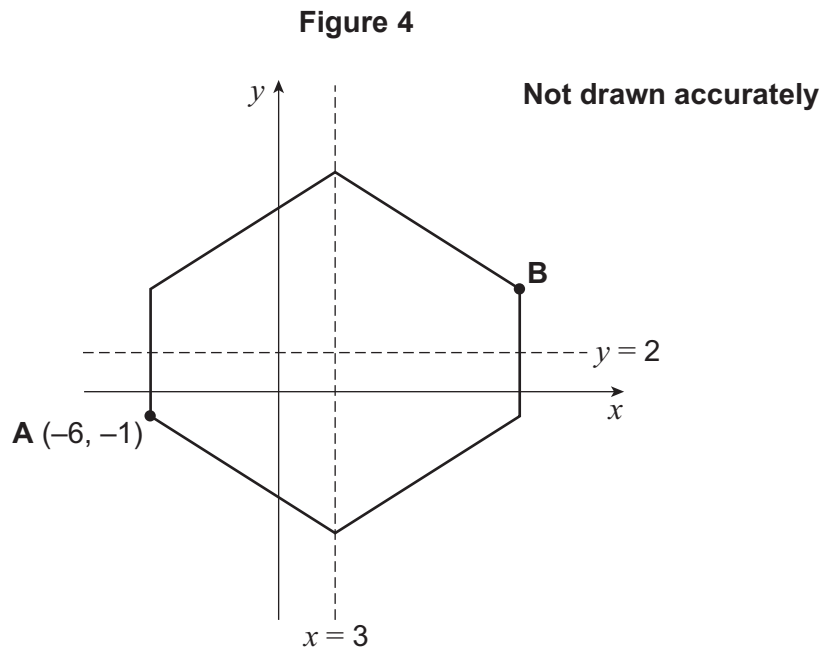






1 8

Figure 4 shows a hexagon for an embroidered motif.



$y = 2$  and  $x = 3$  are lines of symmetry.

Work out the coordinates of **point B**.

[2 marks]

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Answer ( \_\_\_\_\_ , \_\_\_\_\_ )

|   |
|---|
|   |
| 2 |

Turn over for the next question

Turn over ►





|   |   |
|---|---|
| 2 | 0 |
|---|---|

Give **two** reasons why carbon and ceramic fibres are often used in the production of nano-fibres.

**[2 marks]**

Reason 1 \_\_\_\_\_

\_\_\_\_\_

Reason 2 \_\_\_\_\_

\_\_\_\_\_

|   |
|---|
|   |
| 2 |

**Turn over for the next question**

**Turn over ►**





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2 8



2 4 6 A 7 5 6 2 / 1

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