

Tuesday 10 June 2025 – Morning

A Level in Design and Technology: Fashion and Textiles

H405/02 Problem Solving in Fashion and Textiles

Time allowed: 1 hour 45 minutes



You must have:

- the Resource Booklet

You can use:

- a ruler (cm/mm)
- a scientific calculator
- geometrical 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.
- Use the Resource Booklet to answer all the questions.
- Where appropriate, your answer should be supported with working. Marks might be given for a correct method, even if your answer is wrong.
- Each question tells you which part of the Resource Booklet to use.

INFORMATION

- The total mark for this paper is **70**.
- 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 **16** pages.

ADVICE

- Read each question carefully before you start your answer.

- Critically evaluate the suitability of the tool belt for its intended purpose.

In your answer you **must** consider:

- the natural characteristics of the fabric used in the design
- the suitability of the components named in the product description
- any ergonomic considerations
- the extent to which the tool belt meets the key features of workwear.

Refer to **pages 2 and 3** of the Resource Booklet.

[16]

[illegible]

2* Smart or modern fibres are increasingly being used in workwear.

Compare and contrast the products shown on **page 4** of the Resource Booklet.

In your answer you **must** consider:

- the properties of the smart or modern fibres and fabrics used
- any repair, maintenance and aftercare issues
- assessment of the product lifecycle, particularly at disposal.

Refer to **page 4** of the Resource Booklet.

[12]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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3 Designers at Safe Side have sketched out their own design for trousers.

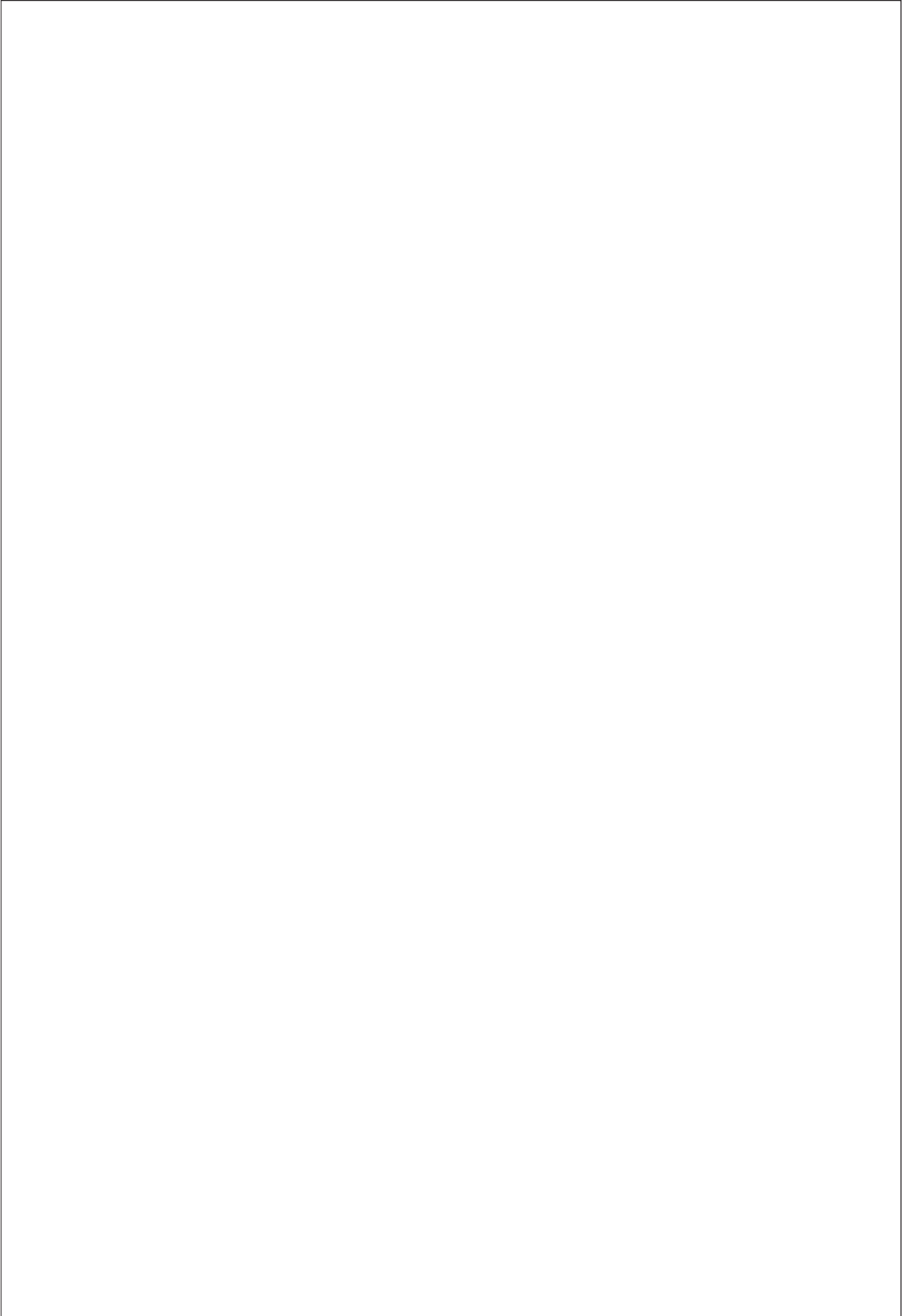
Use sketches and/or notes to show how to add fastenings to the trousers.

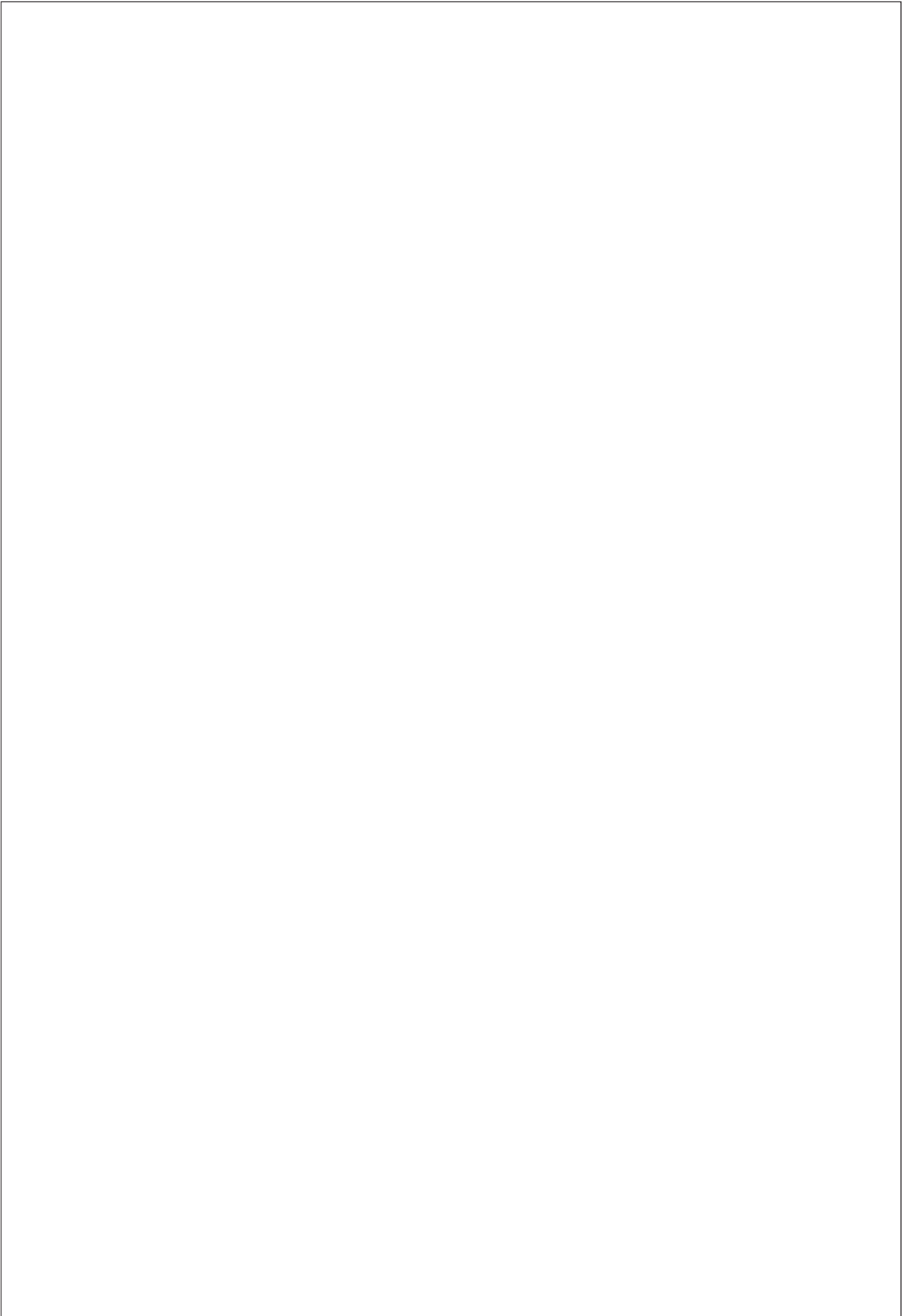
In your answer you **must** consider:

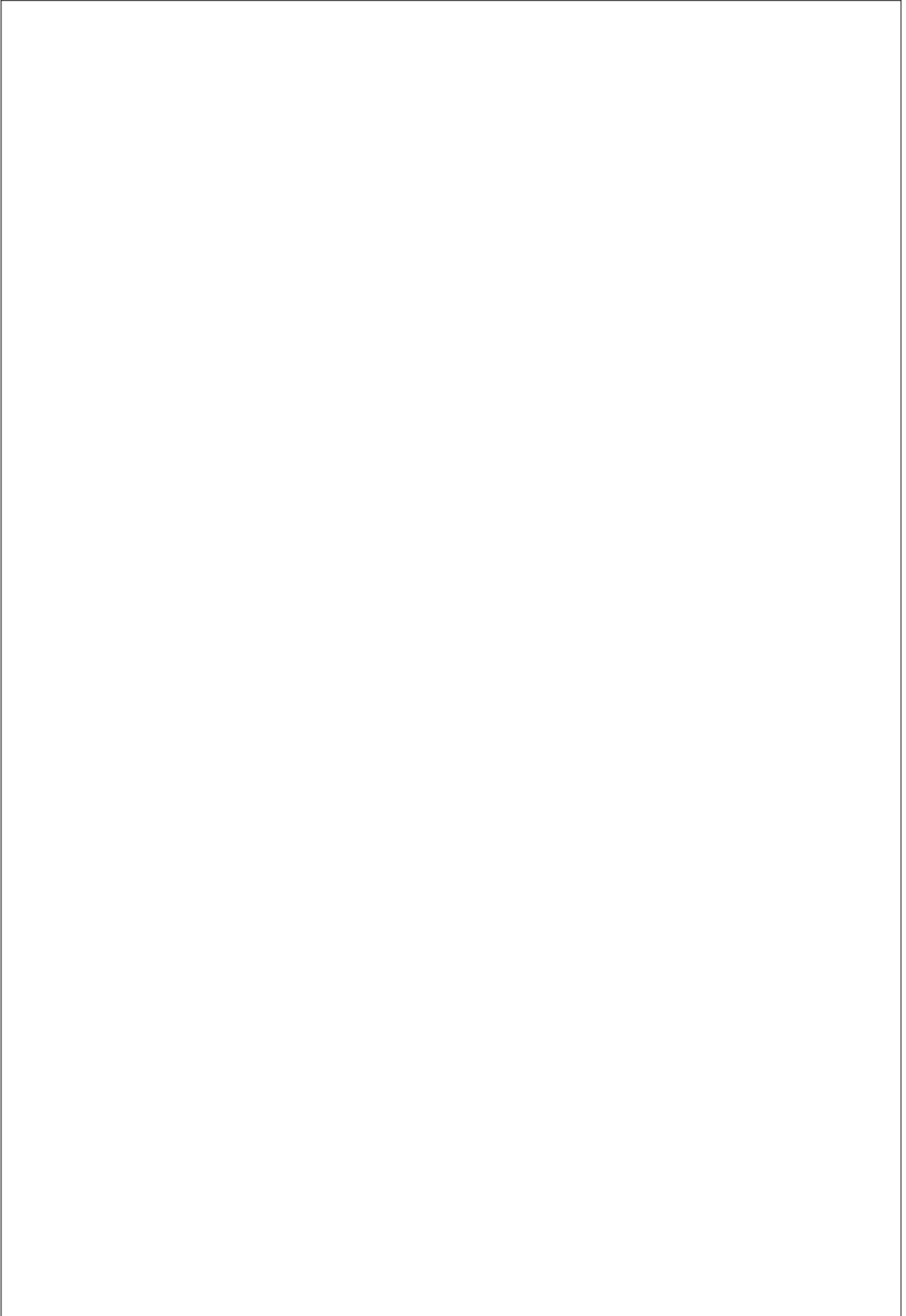
- a suitable method to insert a button fly
- a method of attaching a Velcro fastener on the waistband
- quality control checks needed during the manufacturing process.

Refer to **page 5** of the Resource Booklet.

[16]







4

- (a) Safe Side conducted a survey over a 3-year period.

10 500 accidents in total were reported in 2024.

Use the comparative bar chart on **page 6** of the Resource Booklet to calculate how many accidents were reported against each category of injury. Show your working.

Some categories have already been completed for you.

[2]

Category of Injury	Number of Accidents
Contact with moving machinery	
Hit by moving or flying objects	1575
Injuries when lifting, carrying or handling a load	1575
Falls from height	
Slips, trips or falls (on the same level)	3675

Space for working:

- (b) Refer to the chart on **page 6** of the Resource Booklet.

- (i) Which category of injury had the largest reduction in the percentage of reported accidents for the years **2023–2024**?

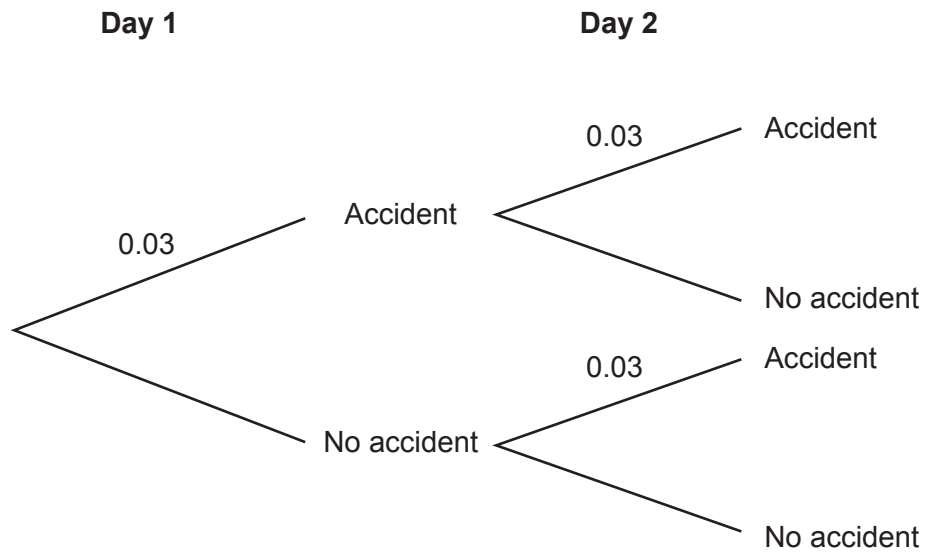
..... [1]

- (ii) Which category of injury had the largest increase in the percentage of reported accidents for the years **2022–2023**?

..... [1]

- (c) **Page 6** of the Resource Booklet states that the probability of an accident occurring on any given day in a construction company is 0.03.

Use the tree diagram below to calculate the probability that there will **not** be an accident in the next two days. Show your working. [2]



Probability

- 5 Dungarees are seen as a useful alternative to trousers when working in the construction industry.

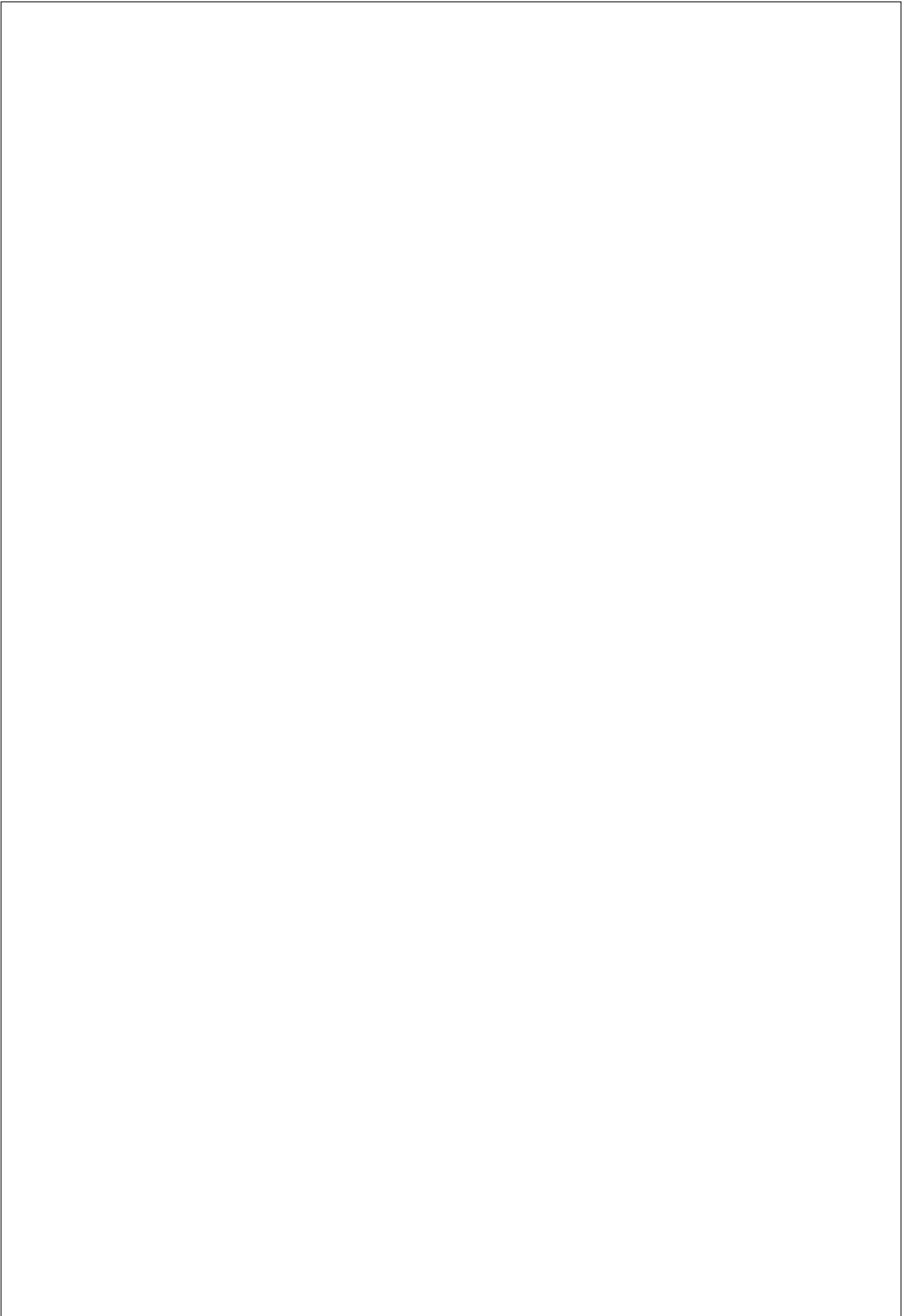
Use sketches and/or notes to show how you would add elastic to the back of the dungarees shown on **page 7** of the Resource Booklet.

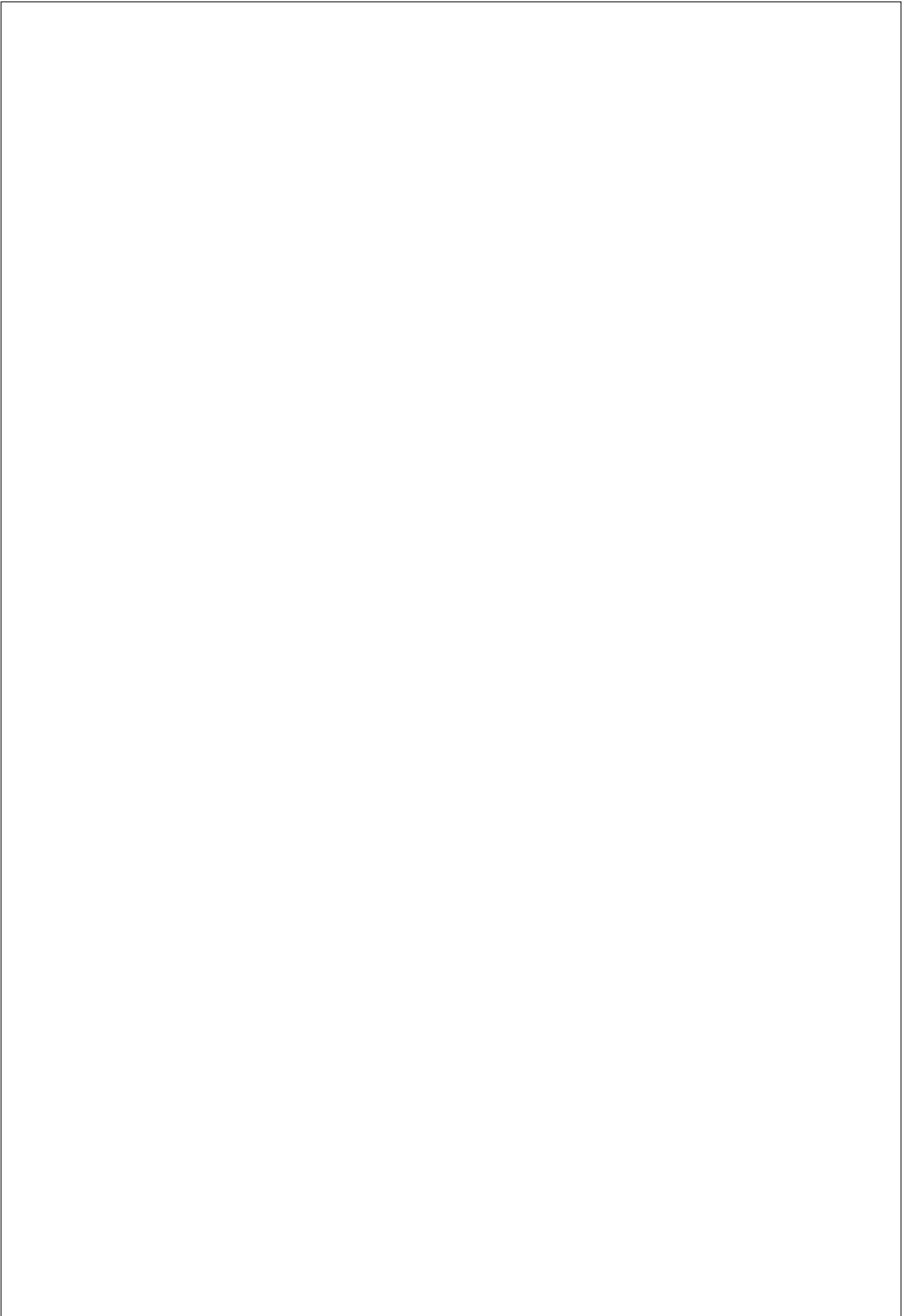
In your answer you **must** consider:

- disposal of fullness
- comfort and movability for the wearer
- tools and equipment required for manufacture.

Refer to **page 7** of the Resource Booklet.

[12]





- 6 Product enhancement is an area of focus for Safe Side designers as they look at different ways this can be achieved.

Critically examine ways in which the functionality of the dungarees can be enhanced beyond the positioning of high visibility panels higher up on the leg.

In your answer you **must** consider:

- the use of technical and e-textiles
- finishes.

Refer to **page 8** of the Resource Booklet.

[8]

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END OF QUESTION PAPER



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