

**B O A R D O F S T U D I E S**  
NEW SOUTH WALES

**HIGHER SCHOOL CERTIFICATE EXAMINATION**

**1999**

# **TEXTILES AND DESIGN**

**2/3 UNIT (COMMON)**

*Time allowed—Three hours  
(Plus 5 minutes reading time)*

## **DIRECTIONS TO CANDIDATES**

- This paper is divided into **THREE** sections.
- Attempt **FOUR** questions, **AT LEAST ONE** question from each Section. The **FOURTH** question may be chosen from **ANY** Section.
- All questions are of equal value.
- Answer each question in a **SEPARATE** Writing Booklet.
- Pages 9, 10 and 11 contain outlines, which may be used as a guide when answering questions. Do **NOT** hand in these sheets with the Writing Booklets.
- You may ask for extra Writing Booklets if you need them.

**SECTION I—SCIENCE AND TECHNOLOGY****QUESTION 1 Dyeing and Printing**

(a) Describe the methods of imparting colour in EACH of the following:

- stock dyeing
- piece dyeing
- hand screen printing
- rotary screen printing.

(b) In industry, which of the above colouration methods would:

- (i) be most costly?
- (ii) enable manufacturers to respond quickly to consumer demands?

Justify your choice for each answer given.

(c) Name and describe THREE colour-fastness tests that a manufacturer could use for quality control.

**QUESTION 2 Finishing**

Finishes may be used to provide the following fabric properties:

- easy care
- altered appearance and handle
- dimensional stability
- environmental protection.

(a) Name ONE finish for EACH of the above properties.

(b) Select TWO of the finishes that you named in part (a).

For EACH finish:

- (i) describe how the finish is applied;
- (ii) explain how the finish produces the desired result;
- (iii) state TWO examples of textile articles that would benefit from the finish, and justify your choices;
- (iv) describe how you would assess the effectiveness of the finish using scientific tests.

### QUESTION 3 Properties and Performance of Textiles

Consider the following textile applications:

- nonwoven surgical gown
- woven terry-towelling bath robe
- jacquard weave upholstery fabric
- weft-knit cycling shorts.

For THREE of the above textile applications:

- (a) describe the stated fabric structure with the aid of diagrams;
- (b) suggest a different fibre or fibre blend suitable for EACH application. Give reasons for your choice;
- (c) state TWO different functional properties that distinguish EACH textile application from the other;
- (d) explain the advantages of using the stated fabric structure and the fibre composition to provide the functional properties identified in part (c).

### QUESTION 4 Properties and Performance of Textiles

The fabric construction, including yarn and fibre type, often determines the end use of the fabric. This is evident in the following three groups.

<i>Group A</i>	<i>Group B</i>	<i>Group C</i>
Cotton fibre for: <ul style="list-style-type: none"> <li>• plain weave business shirt</li> <li>• weft-knitted fleecy-lined tracksuit</li> </ul>	Wool fibre for: <ul style="list-style-type: none"> <li>• tufted carpet</li> <li>• twill weave worsted suit</li> </ul>	Polyester fibre for: <ul style="list-style-type: none"> <li>• satin weave boxer shorts</li> <li>• warp-knitted lingerie</li> </ul>

Select *Group A*, *B* or *C*.

For EACH article in the group you have selected:

- (a) describe the yarn structure;
- (b) describe the fabric construction (support your description with diagrams);
- (c) identify the performance criteria;
- (d) explain how the fibre, yarn and fabric structure contribute to the performance criteria.

**SECTION II—TEXTILES AND SOCIETY**

All questions in Section II have TWO parts.

Answer EITHER Part (a) OR Part (b).

**QUESTION 5 Culture and Textiles**

EITHER

- (a) Critically discuss the use of textiles as an art medium for self-expression, identifying social status and communication between people.

In your answer, refer to TWO contrasting cultures.

OR

- (b) (i) Identify TWO contrasting cultures and select a textile item from each.
- (ii) Compare and contrast the influences of EACH of the following on the textile items chosen in part (i):
- textile production
  - geographic location
  - social organisation
  - religious practices
  - resources available
  - the degree of technological development.

**QUESTION 6 History of the Textile Industry**

EITHER

(a) During the nineteenth and twentieth centuries the development of the textile industries progressed as a direct result of a number of major inventions in the areas of:

- yarn production
- fabric production
- garment manufacture
- colouration.

Explain how inventions during the nineteenth and twentieth centuries, in ONE of the areas listed above, have affected the following:

- (i) productivity and manufacturing efficiency;
- (ii) working conditions;
- (iii) quality control.

OR

(b) Select TWO major inventions of the textile industry. Describe ONE invention that occurred before the twentieth century and ONE that occurred this century. Compare and contrast the changes in the technology. Outline the impact these changes had on the availability of textile products then and now.

**QUESTION 7 The Australian Textile Industry**

EITHER

- (a) The existing textile, clothing and footwear (TCF) industries of Australia have managed either to survive the economic pressures of the last twenty years or to create opportunities for themselves in a climate of technological development.

Choose FOUR of the following and discuss their importance to the Australian TCF industries. In your answer, make reference to the above statement.

- government policy
- off-shore manufacture
- research and development
- new technologies
- environmentalists and conservationists

OR

- (b) Discuss the impact of computer technology on each of the following:
- (i) fabric design and manufacture
  - (ii) garment design and manufacture
  - (iii) textile and garment marketing
  - (iv) the textile worker.

## SECTION III—DESIGN

### QUESTION 8

Australia's natural environment can be an inspiration for fashion designers.

- (a) Design a swimming costume that reflects the above statement. Sketch and label front and back views, clearly showing construction design lines, colours and fabrics.
- (b) Describe how your design reflects the theme of Australia's natural environment.
- (c) Explain the functional requirements of the garment in relation to fabric choice(s) and design features.
- (d) Explain in detail ONE major construction technique.
- (e) Design a swing tag and care label for your swimming costume.

### QUESTION 9

Design a coordinated summer play outfit for a young child learning to dress himself/herself. The outfit must use at least TWO different fabric structures.

- (a) Sketch front and back views of the outfit, identifying the aesthetic features, functional features, fabric structures and colours.
- (b) Discuss the design features that make the outfit appropriate for a young child.
- (c) Discuss the fibre type(s) and fabric structures to be used in the outfit. Give reasons for your choices.
- (d) Describe TWO construction and/or decoration methods that would be appropriate for the fabrics and style chosen.

**QUESTION 10**

From a textile project you have worked on:

- (a) state the design brief;
- (b) sketch the textile item, indicating fabric(s), colour(s) and construction technique(s);
- (c) list the functional and aesthetic design features of your project;
- (d) describe how you would change your original idea to target a specific commercial market of your choice;
- (e) describe the assessment techniques that can be employed to evaluate the quality of the modified textile item.

**QUESTION 11**

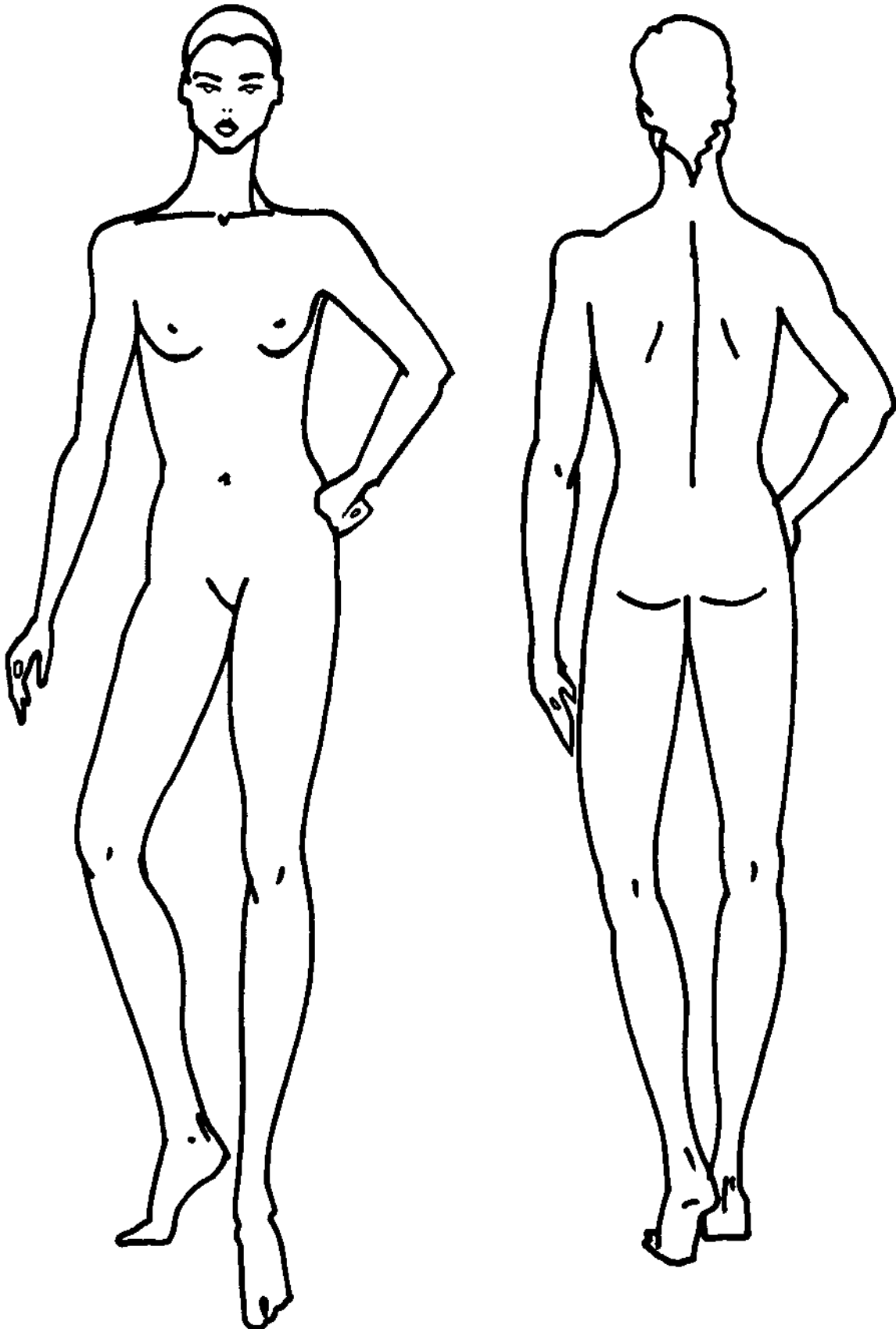
You are the designer for a textile company which produces a range of bedlinen and bedroom accessories. You are to design the interior furnishings of the athletes' living quarters within the 2000 Olympic village, using the theme of 'Sydney'.

- (a) Sketch a suitable fabric design, indicating the colour scheme and design features.
- (b) Show the placement of your design on, and how you can incorporate this fabric design into, a coordinated range that includes:
  - (i) a quilt cover;
  - (ii) sheeting;
  - (iii) curtains.
- (c) Sketch and label your range of designs.
- (d) Justify the aesthetic features of your designs.
- (e) State an appropriate technique for incorporating your design into the fabric that would be suitable for mass production. Justify your choice.



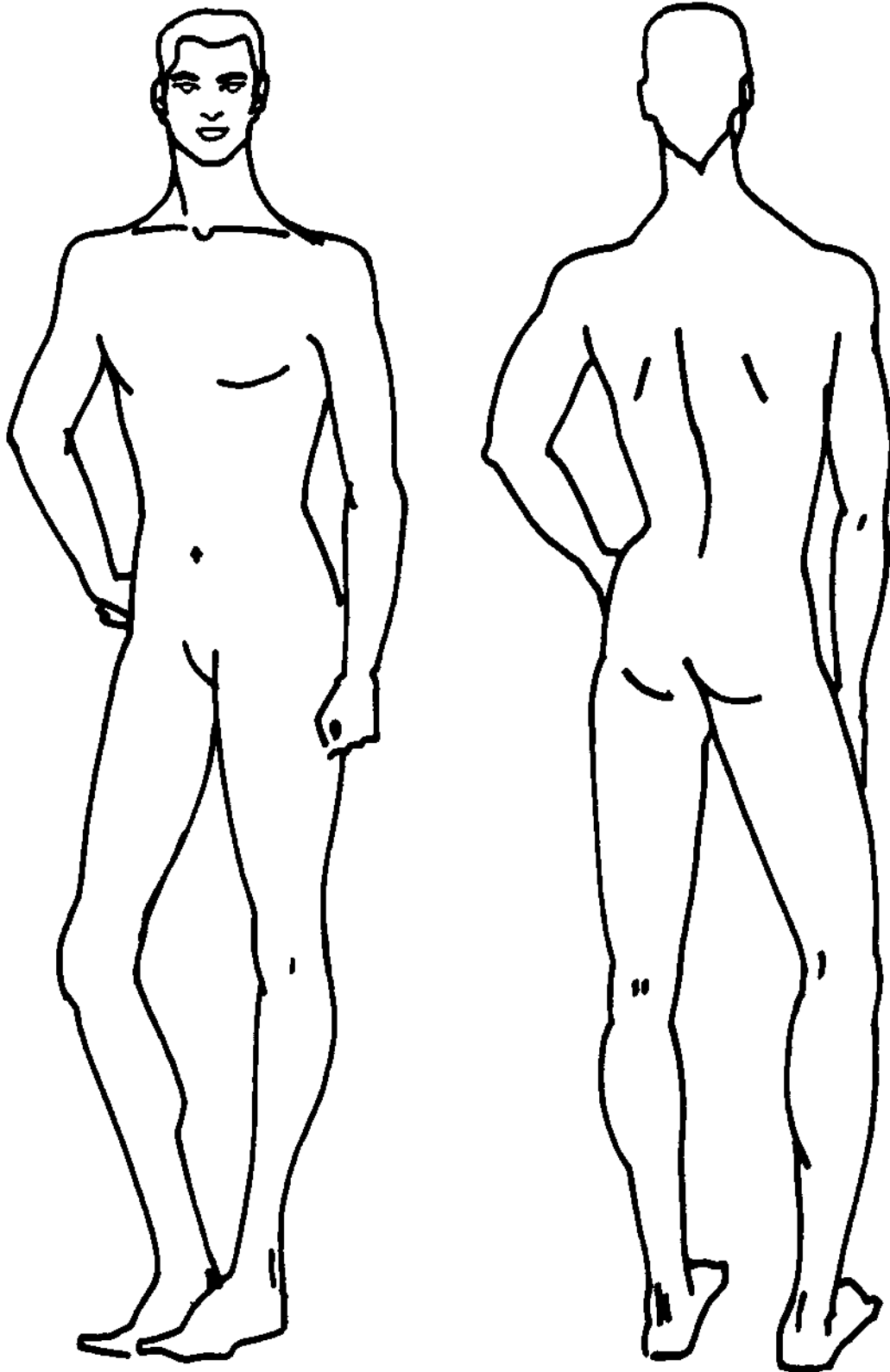
These outlines may be used for guidance when answering questions requiring clothing designs.

Use for tracing only. Do NOT sketch on this sheet. Do NOT hand it in with Writing Booklets.



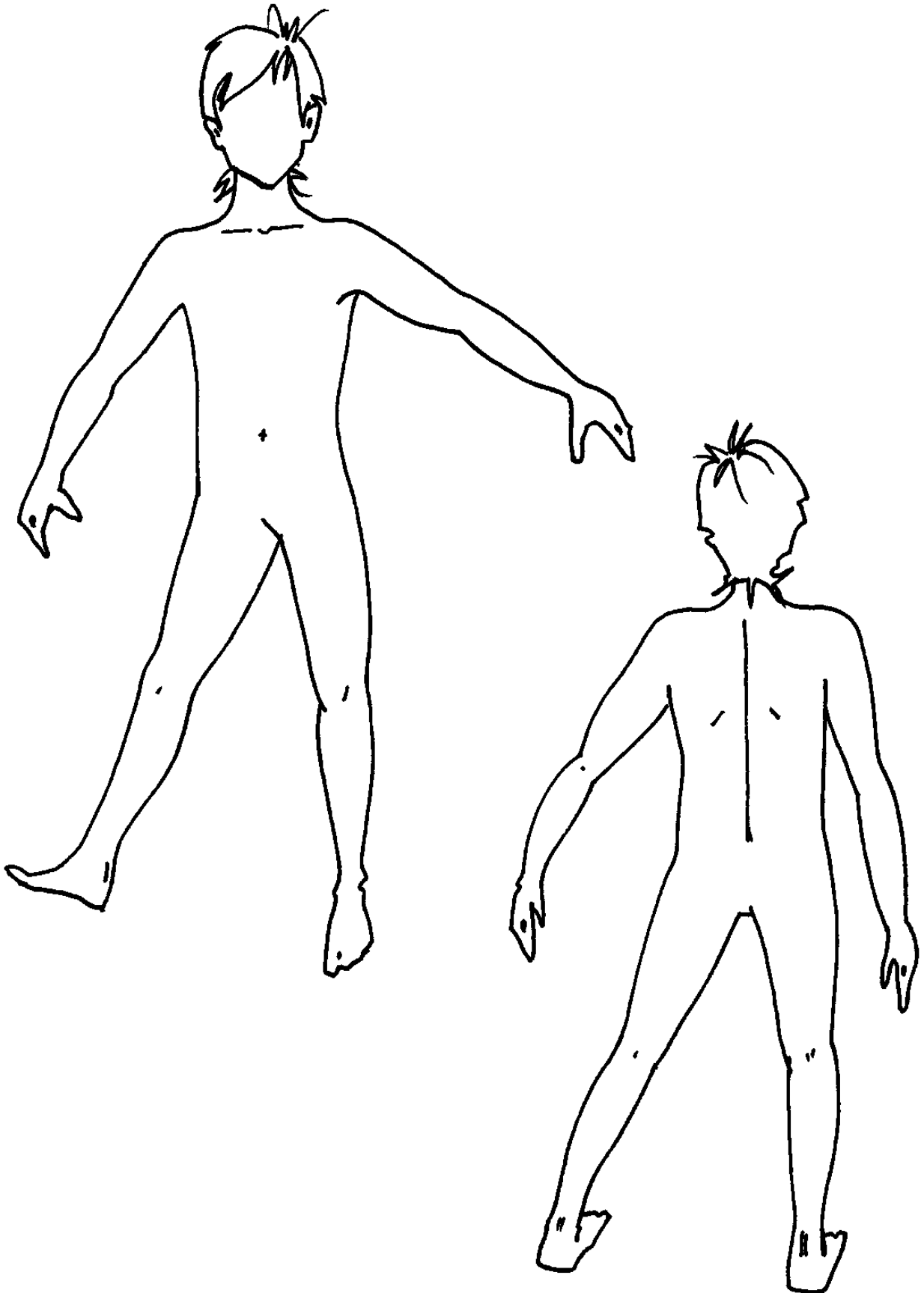
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