



ATAR course examination, 2018

Question/Answer booklet

MATERIALS DESIGN AND TECHNOLOGY

Section Three

Please place your student identification label in this box

Student number: In figures

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

In words

Time suggested for this section

Suggested working time for this section: ninety minutes

Materials required for this section

To be provided by the supervisor

This Question/Answer booklet

To be provided by the candidate

Standard items: pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

Special items: non-programmable calculators approved for use in this examination

Place a tick (✓) in one of the following boxes to indicate your examination context

Wood

Metal

Textiles

Number of additional answer booklets used (if applicable):

Important note to candidates

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised material. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of the examination

The Materials Design and Technology ATAR course examination consists of a written component and a practical (portfolio) component.

Structure of this paper

| Section | Number of questions available | Number of questions to be answered | Suggested working time (minutes) | Marks available | Percentage of written examination |
|--|-------------------------------|------------------------------------|----------------------------------|-----------------|-----------------------------------|
| Section One Short answer | 3 | 3 | 20 | 30 | 15 |
| Section Two Extended answer | 4 | 4 | 40 | 38 | 25 |
| Section Three Candidates to choose one of the following contexts: Wood Metal Textiles | 6 | 6 | 90 | 75 | 60 |
| Total | | | | | 100 |

Instructions to candidates

- The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2018*. Sitting this examination implies that you agree to abide by these rules.
- Write your answers in this Question/Answer booklet.
- Answer the questions according to the following instructions.

Section Three: Answer all of the questions within your context: Wood, Metal or Textiles.
- You must be careful to confine your answers to the specific questions asked and to follow any instructions that are specific to a particular question.
- Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Section Three: Sectionalised and extended answer**60% (75 Marks)**

You are required to choose **one** of the following options, according to the context you have studied in 2018.

Tick one of the boxes below to indicate your choice of context.

| Context | ✓ | Question | Pages |
|-----------------|--------------------------|-----------------|--------------|
| Wood | <input type="checkbox"/> | 8–13 | 4–16 |
| Metal | <input type="checkbox"/> | 14–19 | 18–30 |
| Textiles | <input type="checkbox"/> | 20–25 | 32–44 |

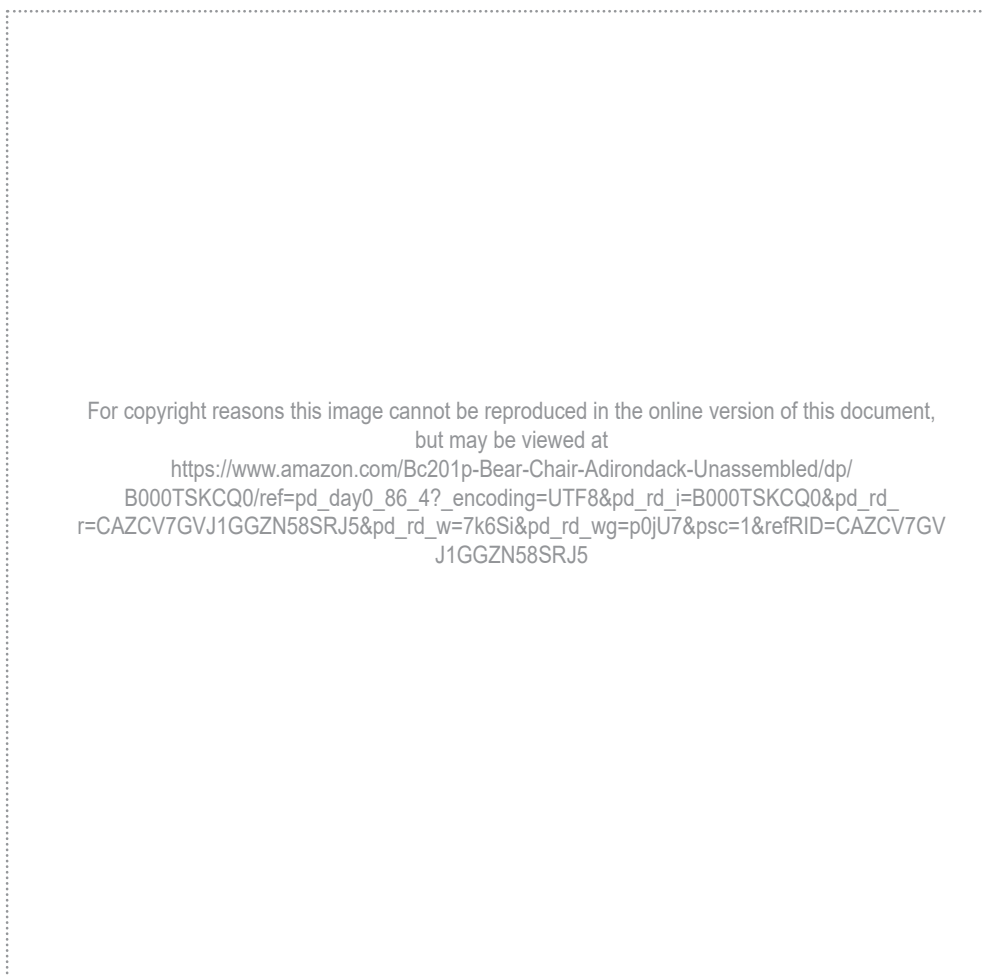
Now turn to the relevant pages and answer the questions for the context you have studied.

Question 9

(9 marks)

Explore the life cycle of the product below. The main material used is pine. You should discuss the following:

- use of energy and materials
- pollution and waste management
- minimising waste at the end of the life of the product.



Use of energy and materials

Pollution and waste management

Minimising waste at the end of the life of the product

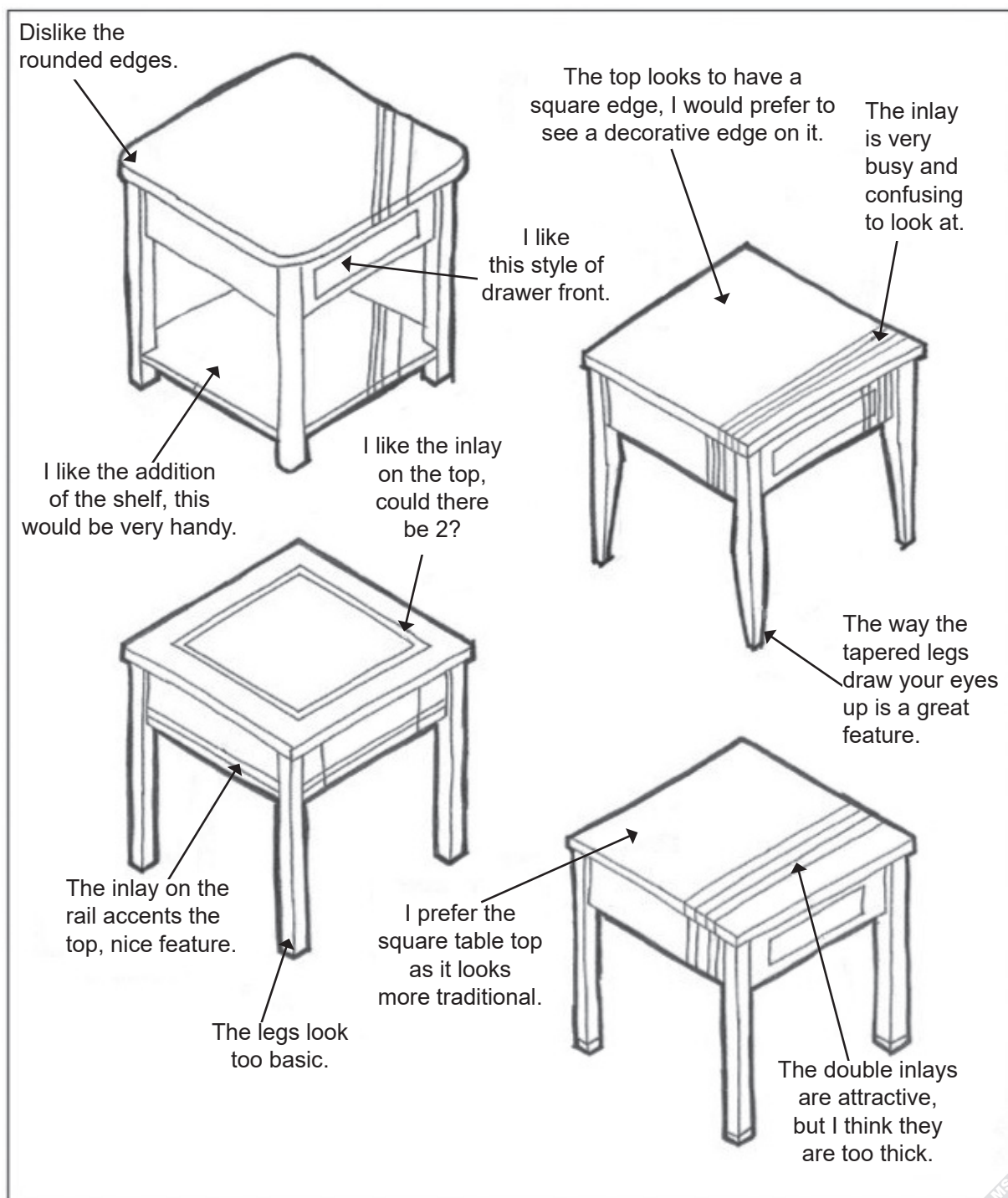
Question 10

(26 marks)

Below is a range of initial concepts that a designer produced for their client. To help the designer with producing their concepts, the client gave them the following design specifications:

- the table must be jarrah to match the existing interior
- must have at least one decorative feature
- would like to see a combination of timbers being used
- there must be additional storage
- the legs must be featured
- must not have any sharp edges.

The annotations below are the client's feedback to the designer.



See next page

- (a) Using the information on the previous page, produce a developed design concept that could be presented to the client. Use annotations to justify your decisions. (14 marks)

A large, empty rectangular box with a thin black border, intended for the student to draw or present their design concept. The box occupies most of the page's vertical space below the question text.

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Question 15

(9 marks)

Explore the life cycle of the product below. The main material used is mild steel tubing. You should discuss the following:

- use of energy and materials
- pollution and waste management
- minimising waste at the end of the life of the product.



Use of energy and materials

Pollution and waste management

Minimising waste at the end of the life of the product

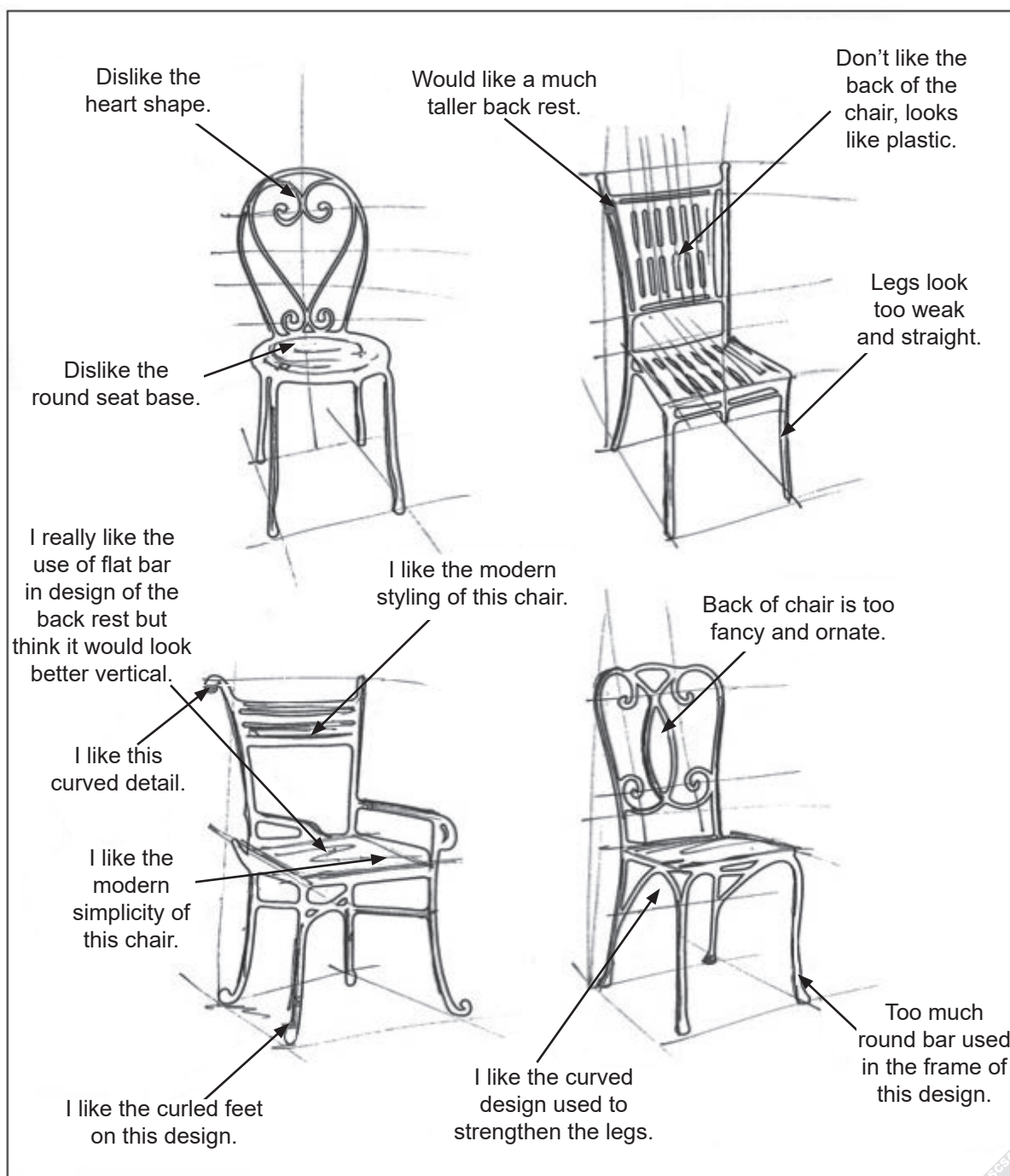
Question 16

(26 marks)

Below is a range of initial concepts that a designer produced for their client. To help the designer with producing their concepts, the client gave them the following design specifications:

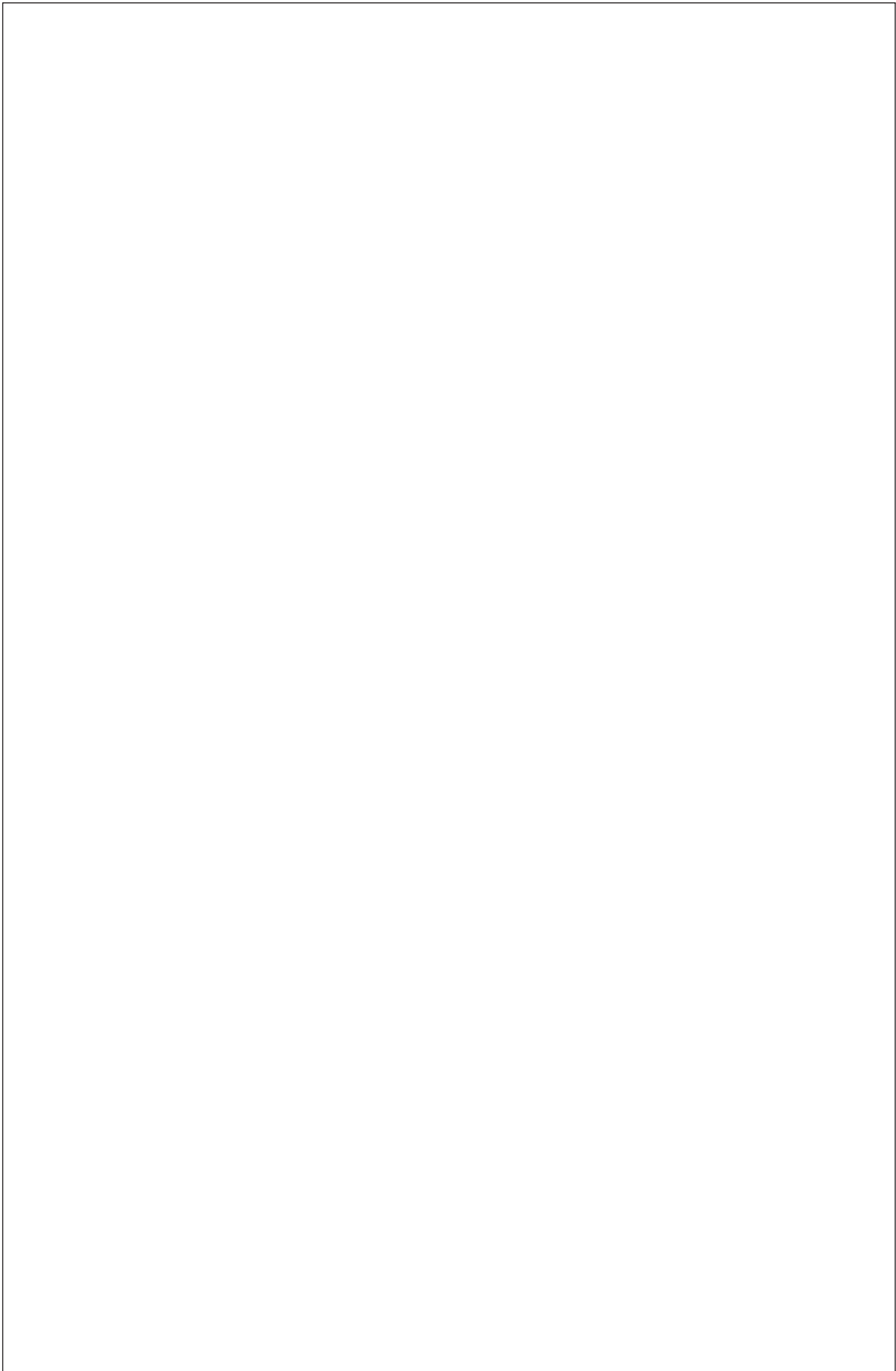
- the chair must be made from steel and coated with a weather-resistant finish
- must have at least one decorative feature
- would like to see a combination of round and flat bar used
- must be comfortable
- must not have any sharp edges.

The annotations below are the client's feedback to the designer.



See next page

- (a) Using the information on the previous page, produce a developed design concept that could be presented to the client. Use annotations to justify your decisions. (14 marks)



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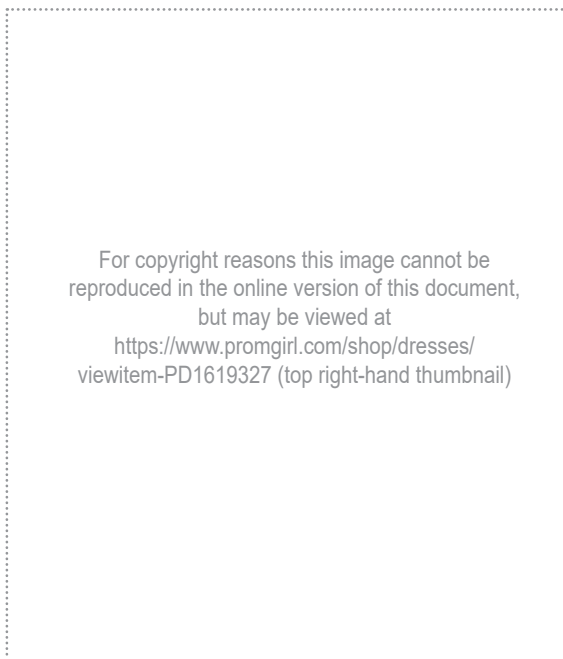
See next page

Question 21

(9 marks)

Explore the life cycle of the product below. The main material used is polyester satin. You should discuss the following:

- use of energy and materials
- pollution and waste management
- minimising waste at the end of the life of the product.



Use of energy and materials

Pollution and waste management

Minimising waste at the end of the life of the product

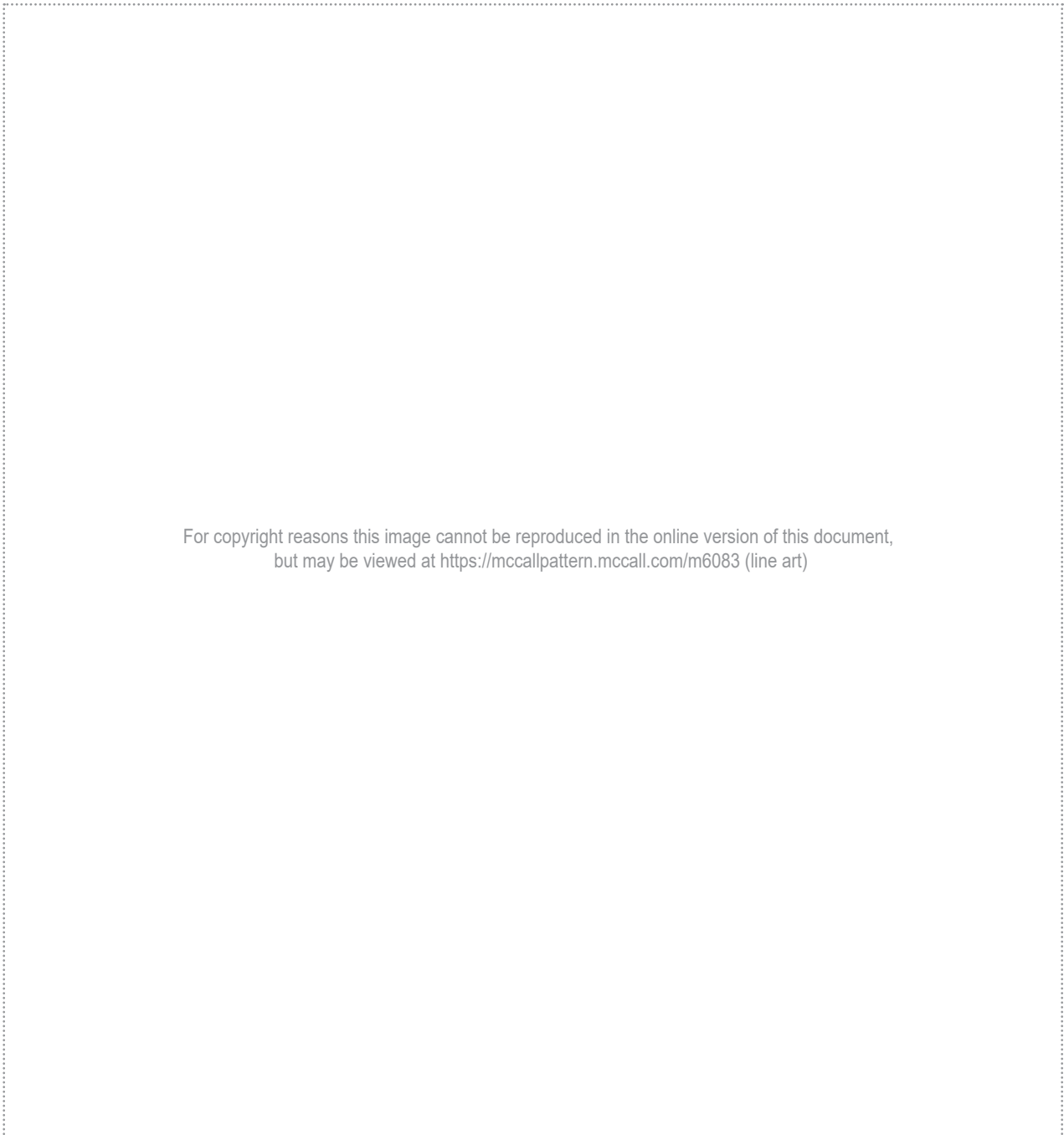
Question 22

(26 marks)

Below is a range of initial concepts that a designer might have produced for their client. To help the designer with producing their concepts, the client gave them the following design specifications:

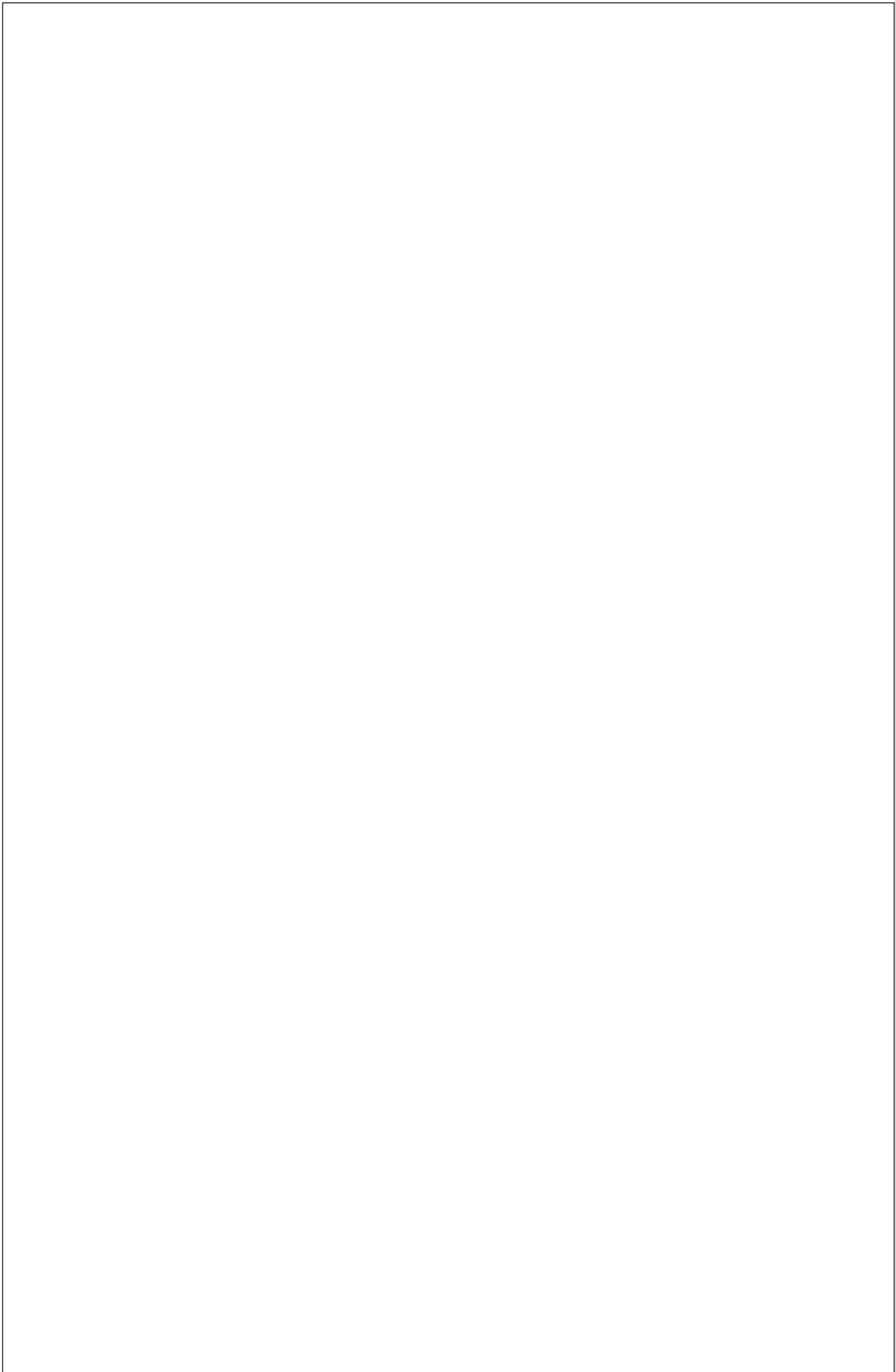
- the garment must be easy to put on and remove without a fastening
- must have at least one decorative feature
- jersey material must be used
- the playsuit must have pockets
- must not have any sharp edges.

The annotations below are the client's feedback to the designer.



For copyright reasons this image cannot be reproduced in the online version of this document,
but may be viewed at <https://mccallpattern.mccall.com/m6083> (line art)

- (a) Using the information on the previous page, produce a developed design concept that could be presented to the client. Use annotations to justify your decisions. (14 marks)

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See next page

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ACKNOWLEDGEMENTS

- Question 9** Image from: Bear Chair. (n.d.). *Bc201p Bear Chair – pine Adirondack chair kit – unassembled*. Retrieved May, 2018, from https://www.amazon.com/Bc201p-Bear-Chair-Adirondack-Unassembled/dp/B000TSKCQ0/ref=pd_day0_86_4?_encoding=UTF8&pd_rd_i=B000TSKCQ0&pd_rd_r=CAZCV7GVJ1GGZN58SRJ5&pd_rd_w=7k6Si&pd_rd_wg=p0jU7&psc=1&refRID=CAZCV7GVJ1GGZN58SRJ5
- Question 21** Image from: PromGirl. (2018). *Long wine red JVN by Jovani prom dress*. Retrieved May, 2018, from <https://www.promgirl.com/shop/dresses/viewitem-PD1619327> (top right-hand thumbnail)
- Question 22** Image adapted from: McCall Pattern Company. (n.d.). *M6083: Misses' jumpsuits, rompers and sash*. Retrieved May, 2018, from <https://mccallpattern.mccall.com/m6083> (line art)
- Question 23** Saddle bag image from: McCall Pattern Company. (n.d.). *Kwik Sew K3447 bags sewing pattern, size S-M-L (View D)*. Retrieved May, 2018, from <https://www.amazon.com/Kwik-K3447-Sewing-Pattern-S-M-L/dp/B000KSDEQY>

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