



**Methodist Ladies' College
ATAR course examination, Semester 1, 2020**

Question/Answer Booklet

**MATERIALS
DESIGN AND
TECHNOLOGY
ATAR Year 11
Sections One, Two and Three**

Student Name: _____

Teacher Name: _____

Time recommended for these sections

Reading/planning time before commencing work: Ten minutes

Working time for these sections: Two hours

Materials required/recommended for this paper

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

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 this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of written examination	Your Mark
Section One Short answer	4	4	15	15	15	
Section Two Extended answer	2	2	30	25	25	
Section Three Textile specific content	5	5	75	80	60	
Total					100	

Instructions to candidates

1. The rules for the conduct of ATAR course examinations are detailed in the *Year 11 Information Handbook 2019*. Sitting this examination implies that you agree to abide by these rules.
2. Write your answers in this Question/Answer Booklet.
3. Answer the questions according to the following instructions.
Sections One and Two: Answer **all** questions.
Section Three: Answer all of the questions within your specialised field: Textiles.
4. You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
5. Additional working space pages at the end of this Question/Answer booklet are for planning or continuing an answer. If you use these pages, indicate at the original answer, the page number it is planned/continued on and write the question number being planned/continued on the additional working space page.

Section One: Short Answer

15 marks

This section has FOUR (4) questions. Answer all questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue with your answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of questions that you are continuing to answer at the top of the page.

Suggested working time: 15 minutes

Question 1.

6 marks

Anthropometric data is used when making and using patterns to construct garments. Name the three key body measurements used to determine pattern size. Outline the process used to take each measurement.

1. Name of body measurement _____

How to take measurement:

2. Name of body measurement _____

How to take measurement:

3. Name of body measurement _____

How to take measurement:

Question 2.

Explain the term ergonomics in the context of designing and making clothing items? 3 marks

Question 3.

OSH is essential knowledge for all employees working in **manufacturing industries**.

What does **OSH** stand for?

1 mark

Question 4

(a) What is a target market?

5 marks
(1 mark)

(b) Identify **two (2) factors** that need to be considered when developing a new product for a target market. **(2 marks)**

Factor 1:

Factor 2:

(c) Identify and explain **one (1) advantage and one (1) disadvantage** of designing a product which appeals to a mass market. **(2 marks)**

Advantage:

Disadvantage:

Section Two: Extended Answer

25 marks

This section has **TWO (2)** questions. Answer **all** questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue and answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of questions that you are continuing to answer at the top of the page.

Suggested working time: 30 minutes

Question 5.

18 marks

It is important to understand '**Design Fundamentals**' as they can ultimately affect the success of a final design or product.

These fundamentals include:

Aesthetics
Environment

Function
Safety

Economics

Social

- a) Select and **explain the meaning of THREE (3)** of the fundamentals. **Give an example of how each might affect the success of a product.**

Design fundamental 1: _____

Explain the meaning of this design fundamental.

(1 mark)

Use a specific example to explain how this fundamental might affect the success of the product?

(2 marks)

Question 5 continued

Design fundamental 2: _____

Explain the meaning of this design fundamental. (1 mark)

Use a specific example to explain how this fundamental might affect the success of the product? (2 marks)

Design fundamental 3: _____

Explain the meaning of this design fundamental. (1 mark)

Use a specific example to explain how this fundamental might affect the success of the product? (2 marks)

Question 5 continued



The image above shows a design for a **tap turner** that has been developed.

b) Identify one (1) ergonomically sound feature of the product and explain how it benefits the user. (2 marks)

Feature:

Explanation:

c) List **two (2) other design fundamentals** that the designer considered when designing this **tap turner**. Explain how the designer used these fundamentals.

(4 marks)

Design Fundamental 1: _____

Explanation:

Question 5 continued

Design Fundamental 2: _____

Explanation:

d) Suggest **one (1)** change that could be made to the product to make it more aesthetically pleasing and explain your answer. Support your answer with a sketch. (3 marks)

Sketch:

Section Three: Textiles Specific Context

80 marks

This section has **FIVE (5)** questions. Answer **all** questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue and answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of questions that you are continuing to answer at the top of the page.

Suggested working time: 75 minutes

Question 7

18 marks

This question is about product design and materials selection.

Look at the ladies' netball dress shown in the pictures below.



See next page

Question 7 continued

Read the materials data table below.

Suggest a **suitable fabric, fabric structure and fibre content** for the netball dress.

Justify the reason/s for your choice for netball dress.

(6 marks)

Information about materials – fabrics and fibres				
	Fabric - Fibre type	Fabric Structure	Cost per metre	Care instructions
A	Poly / Cotton Interlock 80% Cotton / 20% Polyester	Weft Knit	\$7	<ul style="list-style-type: none"> • Machine washable • Line or tumble dry • No ironing required • Colourfast • One way stretch
B	Cotton / Lycra Jersey 90% Cotton / 20% Lycra	Weft Knit	\$10	<ul style="list-style-type: none"> • Machine washable • Line or tumble dry • No ironing required • Colourfast • Two way stretch
C	Cotton Terry 100% Cotton	Loop pile weft knit	\$5	<ul style="list-style-type: none"> • Machine washable • Line or tumble dry • No ironing required
D	Nylon / Lycra Jersey Microfibre 80% Nylon / 20% Lycra	Weft knit	\$10	<ul style="list-style-type: none"> • Machine washable • Line or tumble dry • No ironing required • Colourfast • Two way stretch • Wicks moisture away from body

a)

Fabric name: _____

Fibre Content: _____

Fabric Structure: _____

Justification:

Question 7 continued.

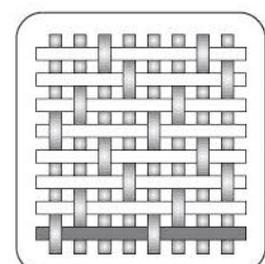
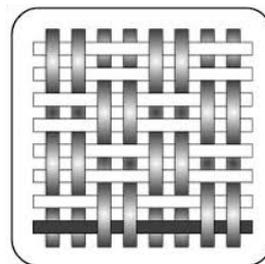
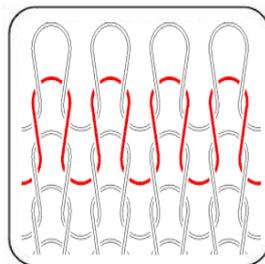
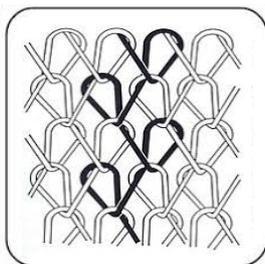
b) List **TWO (2) advantages** of using a knit fabric structure rather than a woven fabric structure for a sports outfit like the netball dress. (2 marks)

Advantage 1:

Advantage 2:

c) Circle the box to show the correct **weft knit structure** for this netball dress.

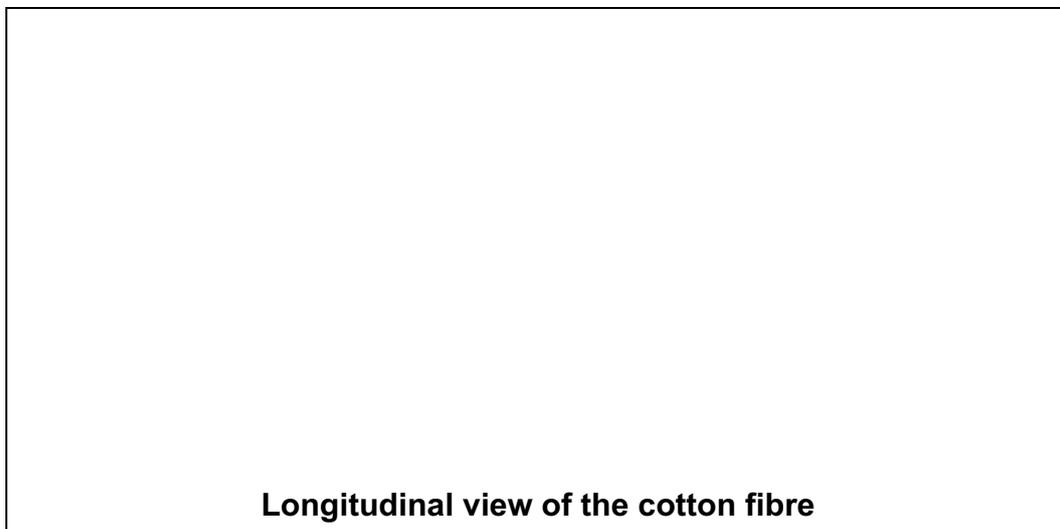
(1 mark)



Question 7 continued.

- d) In the space provided below draw and describe the **longitudinal microscopic** view of the **cotton fibre**:

(2 marks)



Longitudinal view of the cotton fibre

- e) The longitudinal view of the cotton fibre provides evidence of a **special characteristic of this fibre**. Name and explain this special characteristic. (3 marks)

Special characteristic: _____

Explanation of how this **characteristic impacts on the properties** of the cotton fibre:

- f) Cotton has a mostly crystalline internal molecular structure. Use text and diagrams to explain the crystalline internal molecular structure. (2 marks)



Question 7 continued.

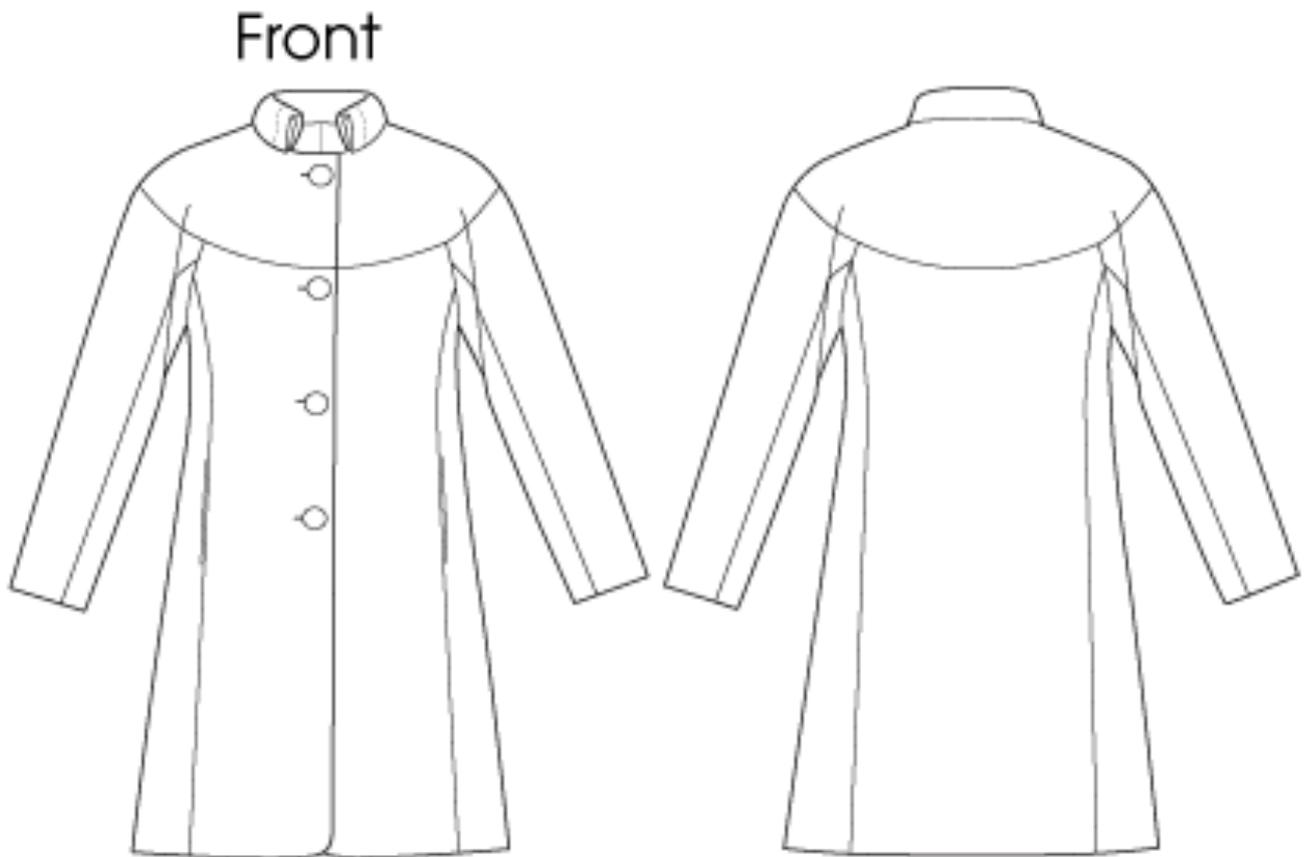
g) Other fibres such as **wool and rayon** have a mostly amorphous internal molecular structure. List the **key properties of mostly amorphous fibres**. (2 marks)

Question 8

21 marks

This question is about working drawings, fabric colouring and decorative techniques
Look at the coat in the working drawings below.

- a) **Annotate** the working drawings for the coat, **describing as many features** as possible:
(4 marks)

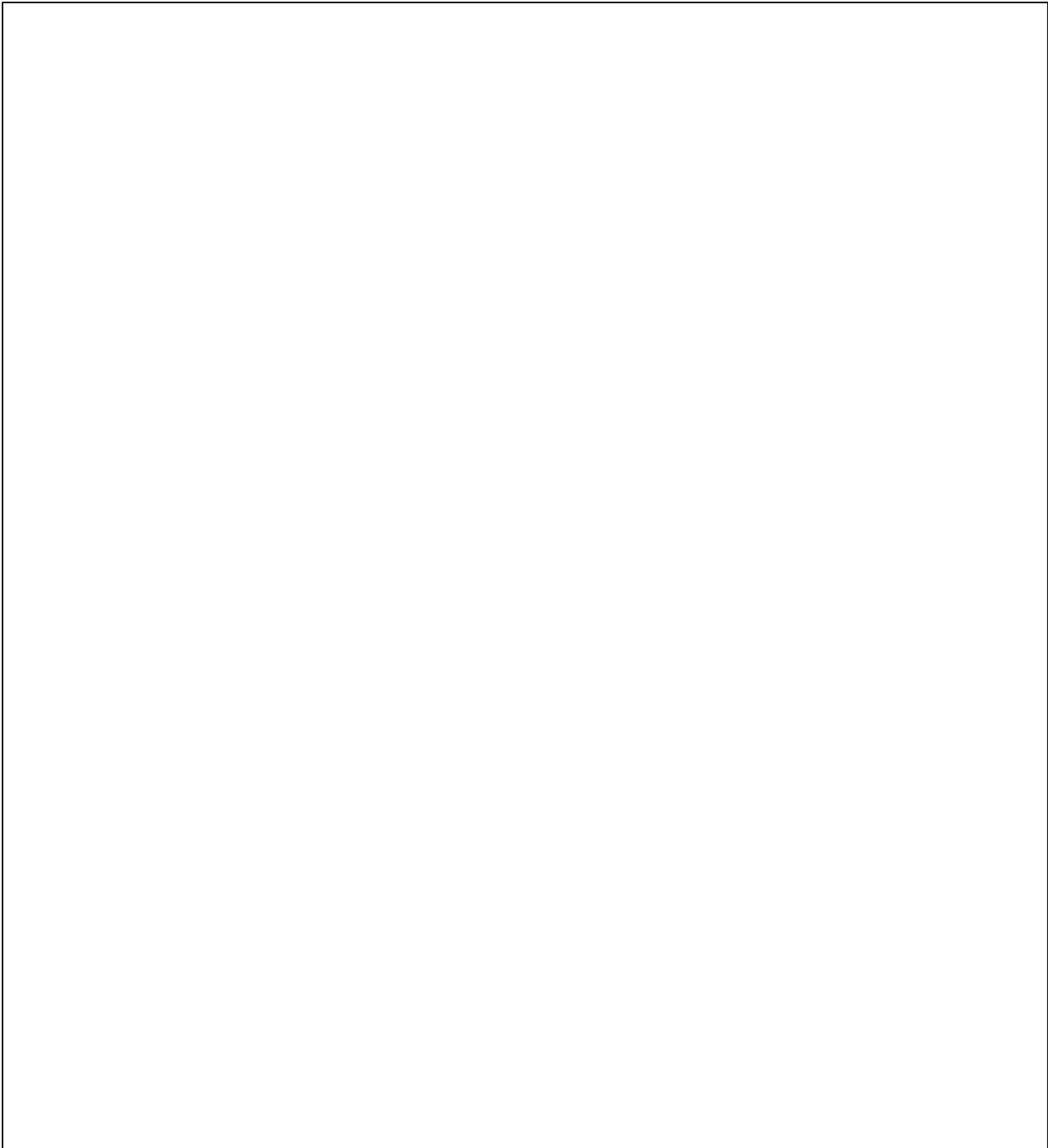


Question 8 continued.

- b) A client has requested that you decorate this jacket using a **variety of decorative techniques**. In the space below, provide a **3D presentation drawing of the decorated version** of the jacket. (figure templates are on page 30) (3 marks)

Annotate your drawing to describe

- (i) **Materials** to use for the decorated version of the jacket (2 marks)
- (ii) **Identify suitable decorative components** for the jacket (2 marks)
- (iii) **Decorative techniques used** to add interest to the jacket (1 mark)



Question 8 continued

c) Use notes and diagrams to explain one decorative technique that could be used to add colour, texture and interest to the jacket.

Marks will be awarded for the following:

- i. Name of the technique
- ii. Equipment & machine settings
- iii. Step by step method / instructions
- iv. Quality of notes and sketches

Technique name: _____ (1mark)

Equipment/Machine Settings: (2 marks)

Instructions: (2 marks)	Sketch and Annotate: (2 marks)

Question 8 continued

Instructions continued: (2 marks)	Sketch and Annotate continued (2 marks)
<hr/>	

(d) Describe **TWO (2) benefits** of using digital printing to print on textiles. (2 marks)

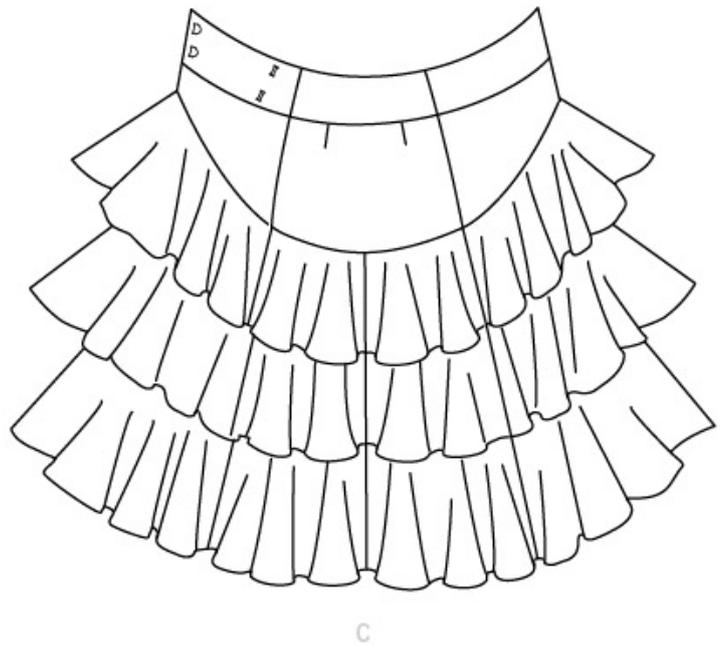
Benefit 1 of using **digital printing**:

Benefit 2 of using **digital printing**:

The following pattern envelope for Vogue wrap skirt 9349 refers directly to **all parts of**



WRAP SKIRT VIEW C



Question 10 continued

FABRICS: Unsuitable for obvious diagonals.

*With Nap. **Without Nap.

Taffeta, Shantung, Broadcloth, Silk Dupion

Note: Fabric requirement allows for nap, one-way design or shading. Extra fabric may be needed to match design or for shrinkage. **NOTIONS:** Four Hooks and Bars.

Fabric widths given in centimeters.										
SIZES	6	8	10	12	14	16	18	20	22	
VIEW A										
115 cm*/**	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.4	m
152 cm*/**	1.5	1.5	1.5	1.6	1.6	1.8	1.9	2.0	2.0	m
LINING A										
115 cm	1.6	1.6	1.8	1.8	1.9	1.9	2.0	2.1	2.1	m
VIEW B										
115 cm*/**	3.9	4.0	4.0	4.2	4.3	4.5	4.6	4.8	4.8	m
152 cm*/**	2.6	2.7	2.7	2.7	2.7	3.0	3.1	3.2	3.4	m
LINING B										
115 cm	3.7	3.7	3.7	3.9	3.9	4.0	4.0	4.2	4.3	m
VIEW C										
115 cm*/**	5.9	6.0	6.1	6.1	6.1	6.6	6.6	6.8	6.8	m
152 cm*/**	3.8	3.8	3.9	4.2	4.2	4.3	4.5	4.6	4.8	m
LINING C										
115 cm	5.5	5.5	5.5	5.5	5.9	6.0	6.0	6.3	6.3	m
FUSIBLE INTERFACING A, B, C										
46, 51 cm	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3	m
FINISHED GARMENT MEASUREMENTS										
Back length from waist										
A	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	
B	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	
C	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	122.6	

Question 10 continued

Using the information found in the table on the back of the pattern envelope on the previous page answer the following questions

- a) Name TWO (2) fabrics which would be suitable for the skirt view C (2 marks)

Fabric 1: _____

Fabric 2: _____

- b) How many hooks and bars are required for the skirt closure? _____ (1 mark)
- c) How much **fabric** would you need to purchase for **skirt view C**, if you chose **150cm wide fabric and your size was 12. Explain your answer.** (2 marks)

- d) The skirt recommends using a lining. What type of lining fabric is most suitable for this skirt? (1 mark)

- e) What is the **width of lining fabric** and the **amount** that would be required for skirt view C? (2 marks)

Question 10 continued

- f) Pattern pieces are printed on large pieces of tissue paper and marked with appropriate information. Each pattern piece will have pattern markings that need to be followed and sometimes transferred to the fabric you are using.

In the table below, draw the symbol for each named pattern marking

(3 marks)

Name of symbol	Draw the symbol
Grain line - Straight grain line	
Notches	
Shorten or lengthen lines	

- g) Are the frills on the skirt **cut on the bias or the straight grain** to achieve this style of circular frill? Circle the correct answer. (1 mark)

Straight Grain

Bias Cut

- h) Interfacing is listed as an additional fabric requirement for all views of Vogue pattern V9349. What **type of interfacing** would you recommend for the skirt? (1 mark)

Where and why would interfacing be used in construction of the skirt? (2 marks)

Question 11

14 marks

Designers consider the **design fundamentals** and use **inspiration** from a variety of sources when researching and generating ideas for their collections and in designing individual garments within a collection or range.

- a) **Using a garment or project that you have designed and manufactured this year:** Identify the **two (2) sources of inspiration** that were used to influence the design and production processes used on the garment. Explain in detail how the sources of **inspiration** were used, exemplifying your answer where possible. (6 marks)

Inspiration Source 1:

Explanation of how it was used:

Question 11 continued

Inspiration Source 2:

Explanation of how it was used:

- b) For an **era in fashion history** that you have studied, select any **four design fundamentals** and explain how they have been expressed in the clothing of that era. (8 marks)

Period of Fashion History: _____

Design Fundamental 1: _____

Design Fundamental 2: _____

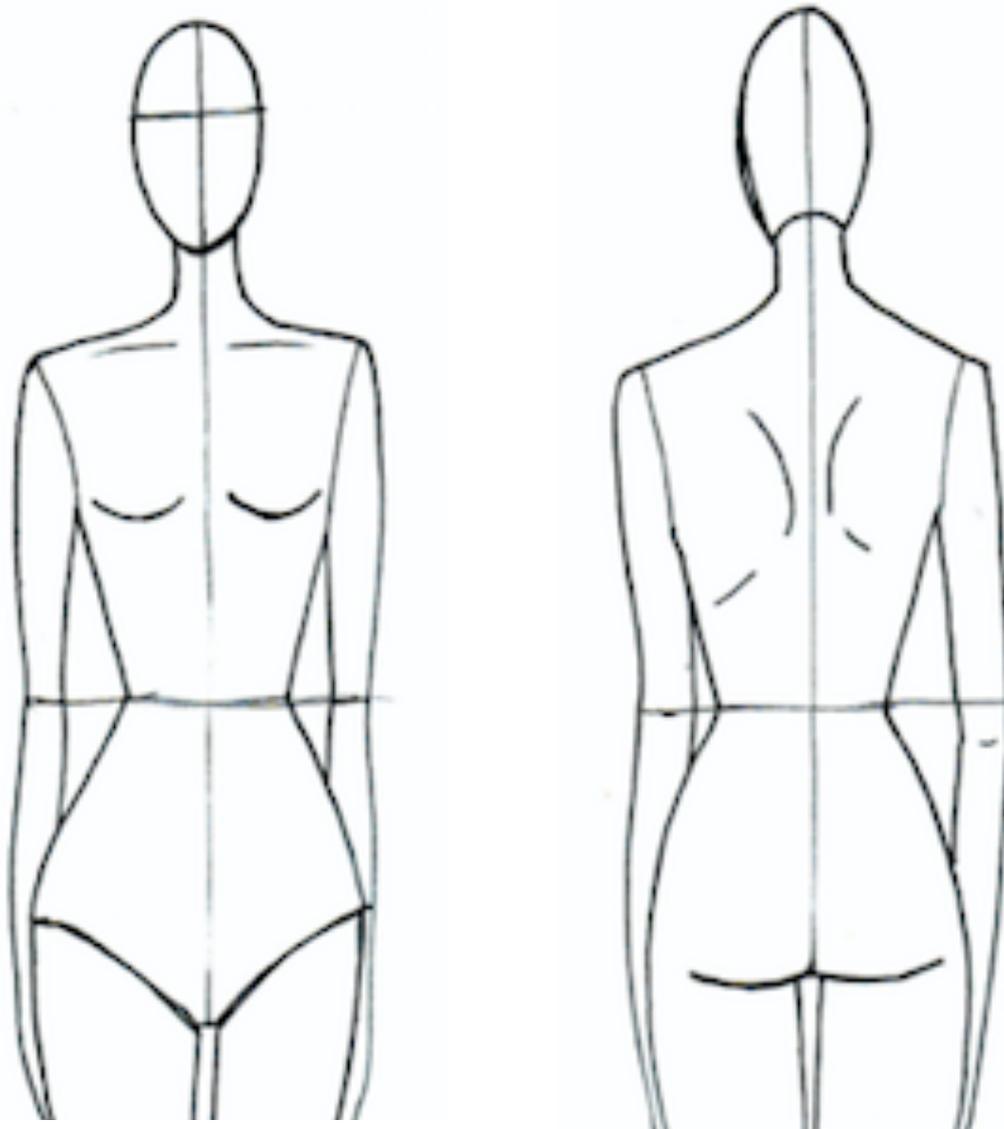
Design Fundamental 3: _____

Design Fundamental 4: _____

End of questions

See next page

Figure templates to assist with your presentation drawings



See next page