



METHODIST  
LADIES'  
COLLEGE

**Methodist Ladies' College  
ATAR course examination, Semester 1, 2021**

**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 30 minutes

**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: up to three calculators, which do not have the capacity to create or store programmes or text, are permitted in this ATAR course 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	3	3	20	15	15	
Section Two Extended answer	3	3	40	25	25	
Section Three Textile specific content	4	4	90	86	60	
<b>Total</b>					100	

**Instructions to candidates**

1. The rules for the conduct of ATAR course examinations are detailed in the *Year 11 Information Handbook 2021*. 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. Supplementary pages for planning/continuing your answer 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 One: Short Answer**

**15 marks**

This section has **THREE (3)** 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: 20 minutes

**Question 1.**

**4 marks**

Select ONE (1) of the pieces of equipment from those shown below. Choose the item most relevant to your context area of study.



Steam Generator Iron

Ban Saw

MiG Welder

Identify FOUR (4) safety rules to follow when using the piece of equipment that you have selected.

i) \_\_\_\_\_  
\_\_\_\_\_

ii) \_\_\_\_\_  
\_\_\_\_\_

iii) \_\_\_\_\_  
\_\_\_\_\_

iv) \_\_\_\_\_  
\_\_\_\_\_

Look at the backpacks shown in the photographs below.



**Backpack A**



**Backpack B**

The backpacks are designed for two different types of people.

(a) Identify and explain the target market and intended use for each backpack. (4 marks)

**Backpack A**

Target market:

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Intended use for Backpack A:

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Question 2 continued

**Backpack B**

Target market:

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Intended use for Backpack B:

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- (b) Fill in the table below to show **THREE (3)** comparisons of design features between the design of Backpack A and the design of Backpack B. One example has been completed for you. (3 marks)

<b>Backpack A</b>	<b>Backpack B</b>
<i>Eg. thin brown leather backpack shoulder straps - designed for short term use when shopping</i>	<i>Eg. wide strong comfortable backpack straps designed for comfort during long term use when hiking</i>

**Question 3.**

**4 marks**

Designers use information communication technology (ICT) in a wide range of ways in manufacturing industries today.

Explain **TWO (2)** ways in which you could have used information communication technology (ICT) to help you in creating and managing your designs in your portfolio and communicating your progress to a client if they were unable to get to your studio or workshop.

Example 1:

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Example 2:

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**End of Section One**

**See next page**

**Section Two: Extended Answer**

**25 marks**

This section has **THREE (3)** 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: 40 minutes

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**Question 4.**

**12 marks**

This question is about the design fundamentals.

For all parts of this question refer to the image of the contemporary Hans Wegner circle lounge chair shown below.

The circle lounge chair retails at \$2.095.00.



**See next page**

Question 4 continued

- a) Identify and discuss how the designer has considered each of the design fundamentals listed below in the design and manufacture of this lounge chair.  
Discuss TWO (2) relevant points for each design fundamental. (10 marks)

Design Fundamental	TWO (2) relevant points
Aesthetics	
Function	
Economics	
Environment	
Social	

- b) Describe the **relationship that exists between aesthetics and function** when applied to the design of the Hans Wegner circle lounge chair. (2 marks)

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Question 6

5 marks

The Indian bridal jewellery piece shown in the image below, known as the 'Meenakari choker' has been designed and made using a range of precious metals and stones and also pink enamel. In designing this piece of jewellery, anthropometric data and ergonomics have been considered by the designer in order to create personalised fit and comfort for a bride to wear this piece all day.



Source: Vogue website

(a) Define ergonomics

(1 marks)

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(b) Define anthropometrics

(1 marks)

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**Section Three: Textiles Specific Context**

**86 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 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: 90 minutes.

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**Question 7**

**22 marks**

This question is about product design and materials. Look at the baby swaddle sleep suit in the picture below.



The fabric is a medium stretch knit fabric, and the fibre content is 93% cotton and 7% elastane

**See next page**

Question 7 continued.

a) List **FOUR (4)** advantages of this fibre blend for this baby swaddle.

(4 marks)

Advantage 1:

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Advantage 2:

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Advantage 3:

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Advantage 4:

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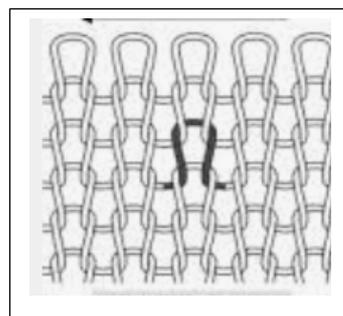
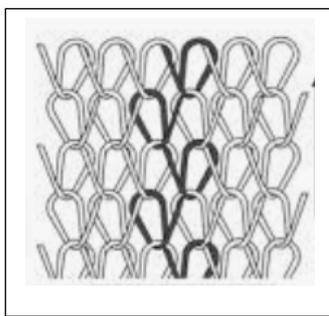
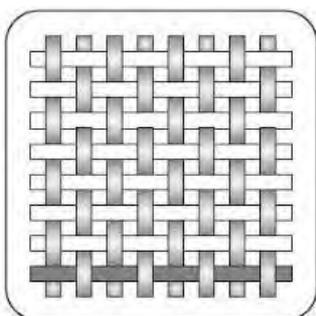
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b) The baby swaddle is made using a weft knit structure

Circle the box to show the correct stretch fabric structure for this swaddle.

(1 mark)



**See next page**

Question 7 continued.

- c) Give **TWO (2)** reasons why this is a suitable method of fabric construction for the baby swaddle. (2 marks)

Reason 1:

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Reason 2:

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- d) In the space provided below draw and describe the **longitudinal microscopic** view of the cotton fibre: (1 mark)

**Longitudinal view of the cotton fibre**

Question 7 continued.

- e) The longitudinal view of the cotton fibre provides evidence of a unique characteristic or property of this fibre. Name and explain this characteristic / property. (2 marks)

Name of unique characteristic / property: \_\_\_\_\_

Explanation of this unique characteristic /property:

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- f) The child's knitted jumper shown in the image below is designed to be worn in very cold weather. Using your knowledge of fibres suggest the best fibre to use for this garment. Give TWO (2) reasons for your choice of fibre. (3 marks)



Name of fibre: \_\_\_\_\_

Reason 1:

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Question 7 f) continued.

Reason 2:

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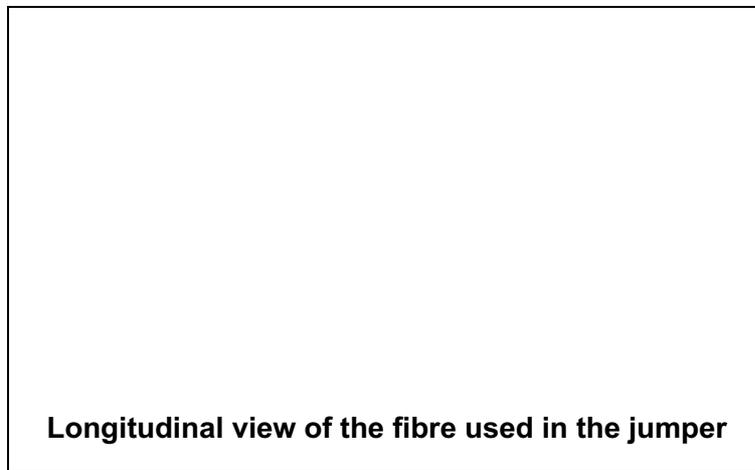
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**g)** In the space provided draw and describe the longitudinal microscopic view of this fibre. (1 mark)



**h)** This fibre has a special unique characteristic or property which is evidenced by this microscopic view.

Name this characteristic / property: \_\_\_\_\_ (1 mark)

**i)** Explain how this unique characteristic / property can be used to create a fabric (2 marks)

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Question 7 continued.

- j) For the knitted child's jumper made using this fibre describe the special care that must be taken at each stage of the laundering cycle using the chart below to record your answer. (5 marks)

<b>Wash Stage</b>	<b>The care that must be taken when laundering this fibre</b>
Detergent type	
Wash action	
Water temperature	
Drying	
Ironing	

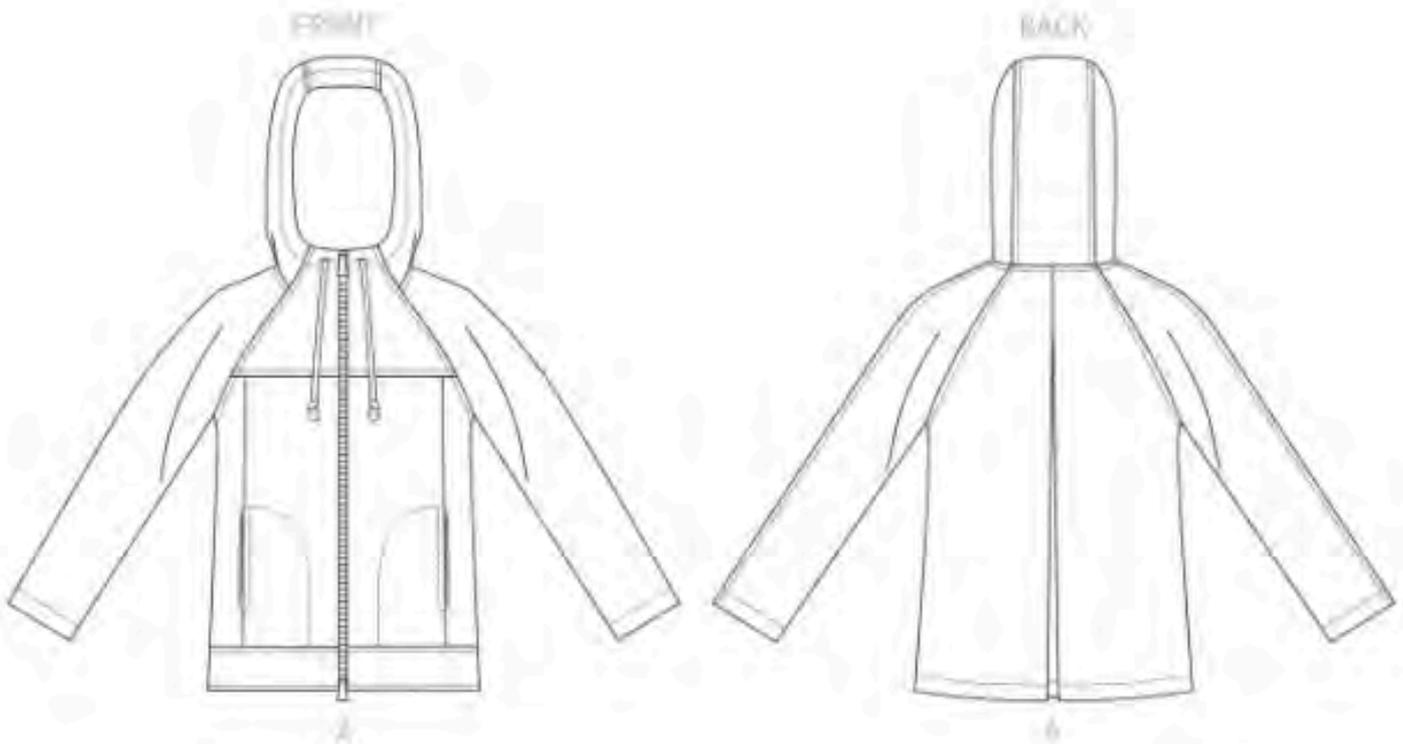
Question 8

23 marks

This question is about working drawings, fabric colouring and decorative techniques

Look at the jacket in the working drawings below.

- a) Annotate the working drawings using technical terms describing as many features as possible:  
(6 marks)



See next page

Question 8 continued.

b) A client has requested that you decorate this jacket using a variety of decorative techniques.

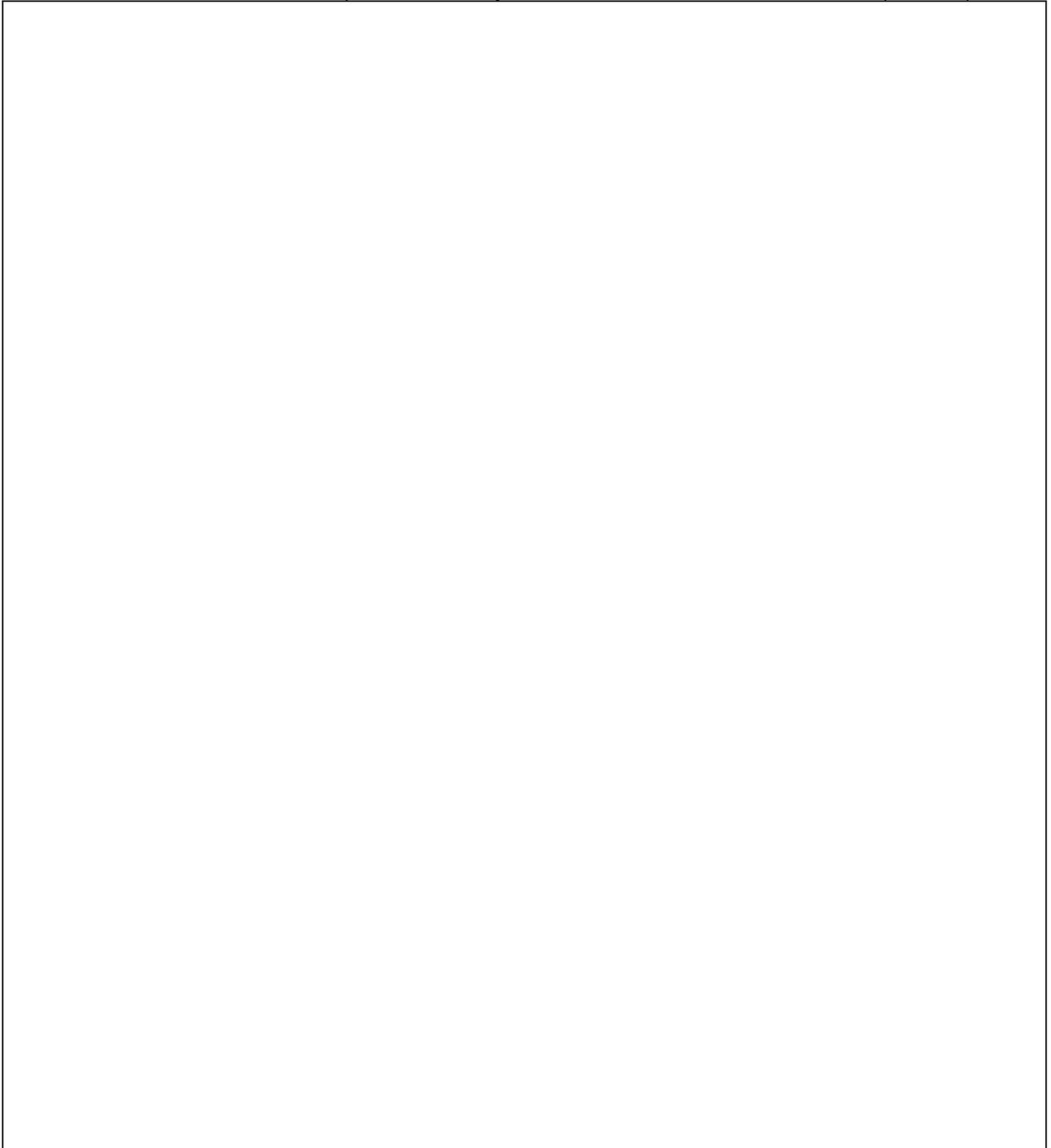
In the space below, provide a 3D rendered drawing of the decorated version of the jacket.

**Provide front and back views.**

(4 marks)

Annotate:

- Materials to use for the decorated version of the jacket (2 marks)
- Suitable decorative components for the jacket (2 marks)



**See next page**

Question 8 continued

- c) In the space provided below, use notes and diagrams to explain **ONE (1) decorative technique** that could be used to add colour, texture and interest to different parts of the jacket. (7 marks)

Marks will be awarded for the following:

- a. Name of the technique
- b. Equipment and machine settings
- c. Step by step method/ instructions
- d. Quality of annotations and sketches to support your instructions

Technique Name: \_\_\_\_\_ (1 mark)

Equipment list & machine settings: (1 mark)

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Step by Step Instructions (3 marks)	Sketches with annotations to support written instructions (2 marks)

Question 8 continued.

<b>Step by Step Instructions (3 marks) continued</b>	<b>Sketches with annotations to support written instructions (2 marks) continued</b>

(d) Describe **TWO (2)** problems that can occur when using digital printing to print on textiles. (2 marks)

Problem 1 of using **digital printing**:

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Problem 2 of using **digital printing**:

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This question is about **Simplicity Pattern 8604**: details shown below

21 marks

The questions will commence on **page 26** for **Question 9**.

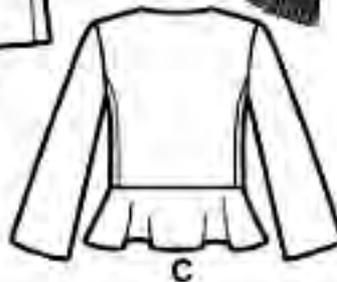
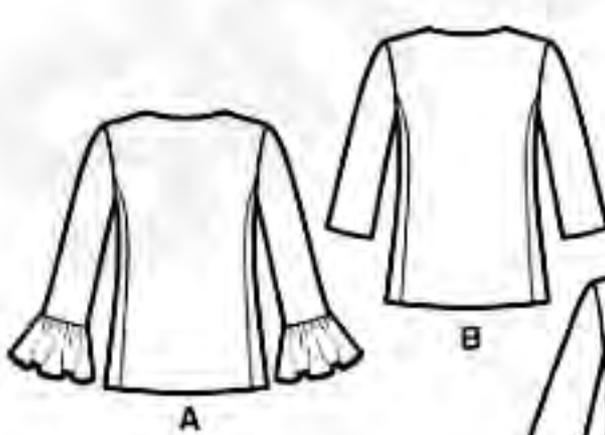
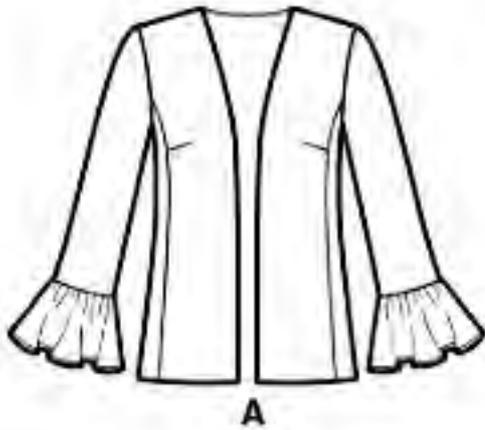
Front of the Pattern Envelope for Simplicity 8604



See next page

Question 9 continued.

Simplicity 8604 – Working Drawings



Question 9 continued.

MISSES'/MISS PETTE LINED JACKETS. SEPARATE PATTERN PIECES INCLUDED FOR B,C,D,DD CUP SIZES										
Fabrics: Flannel, Brocade, Corduroy, Crepe, Damask, Denim, Linen Types, Pique, Sateen, Tweed. Extra fabric needed to match plaids, stripes or one-way design fabrics.										
Notions: Thread, one 3" x 10" polyester fleece remnant for sleeve binding; C; Four 3/4" buttons; D; Six 3/4" buttons. Look for Simplicity Trims.										
BODY MEASUREMENTS (For Sizing Help Visit <a href="http://www.simplicity.com/sizeshelp">www.simplicity.com/sizeshelp</a> )										
Bust	30 1/2	31 1/2	32 1/2	34	36	38	40	42	44	46
Waist	23	24	25	26	28	30	32	34	37	39
Hip-8" below waist	32 1/2	33 1/2	34 1/2	36	38	40	42	44	46	48
Back-neck to waist	35 1/2	35 1/2	35 1/2	36	36 1/2	37	37 1/2	38 1/2	39 1/2	40 1/2
Sizes	5	8	10	12	14	16	18	20	22	24
European	32	34	36	38	40	42	44	46	48	50
A Jacket										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
60***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Interfacing: 1 1/2 yd. of 20" to 25" lightweight fusible, such as Pellon®										
A,B Lining										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
B Jacket										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
60***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Interfacing: 2 1/2 yd. of 20" to 25" lightweight fusible, such as Pellon®										
C Jacket										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
60***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
C,D Lining										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Interfacing: 1 1/2 yd. of 20" to 25" lightweight fusible, such as Pellon®										
D Jacket										
45***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
60***	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Trim: 2 1/2 yd. of 3" wide fringe trim										
FINISHED GARMENT MEASUREMENTS (includes Design and Wearing Ease): All Views Bust:										
B Cup	32 1/2	34 1/2	35 1/2	37	39	41	43	45	47	49
C Cup	34	35	36	37 1/2	39 1/2	41 1/2	43 1/2	45 1/2	47 1/2	49 1/2
D Cup	34 1/2	35 1/2	36 1/2	38	40	42	44	46	48	50
DD Cup	35	36	37	38 1/2	40 1/2	42 1/2	44 1/2	46 1/2	48 1/2	50 1/2
Finished back length from base of neck										
A,B	24 1/2	24 1/2	25	25 1/2	26 1/2	27 1/2	28 1/2	29 1/2	30 1/2	31 1/2
C	20 1/2	20 1/2	21	21 1/2	22 1/2	23 1/2	24 1/2	25 1/2	26 1/2	27 1/2
D	18 1/2	18 1/2	19	19 1/2	20 1/2	21 1/2	22 1/2	23 1/2	24 1/2	25 1/2

JEUNE FEMME/PETITE JEUNE FEMME: VESTES DOUBLÉES. Y COMPRIS PIÈCES DE PATRON SÉPARÉES POUR LES BONNETS B, C, D, DD										
Tissus: Laine Bouclette, Brocart, Velours Côtelé, Crêpe, Damas, Denim, Tulle de Lin, Jersey. Pique, Tweed. Prévoyez des doublures de tissu pour recouvrir les épaules, les rayures ou les motifs multidirectionnels.										
Mercerie: Fil, un morceau de molleton de polyester de 7,5cm x 25,5cm pour le coussinet de manche; G: Quatre boutons de 2cm; D: Six boutons de 2cm. Démarquez les garnitures de Simplicity.										
MESURES NORMALISÉES										
Poitrine	78	80	82	87	92	97	102	107	112	117 cm
Taille	58	61	64	67	71	76	81	87	94	99 "
Hanches (23cm au-dessous de la taille)	83	85	88	92	97	102	107	112	117	122 cm
Dos (encolure à taille)	39,5	40	40,5	41,5	42	42,5	43	44	44	44,5 cm
Tailles	6	8	10	12	14	16	18	20	22	24
Fraîsises	34	35	36	40	42	44	46	48	50	52
A Veste										
115cm**	1,60	1,60	1,60	2,00	2,00	2,00	2,20	2,20	2,20	2,40 m
150cm**	1,30	1,30	1,30	1,40	1,40	1,40	1,60	1,60	1,70	1,70 "
Enfilage: 1,70m de 51cm à 64cm, léger, thermocollant tel que Pellon®										
A,B Doublure										
115cm**	1,20	1,20	1,20	1,30	1,30	1,30	1,70	1,70	1,80	1,80 m
B Veste										
115cm**	1,60	1,60	1,60	2,00	2,00	2,00	2,20	2,20	2,20	2,40 m
150cm**	1,40	1,40	1,40	1,50	1,50	1,50	1,60	1,60	1,60	1,60 "
Enfilage: 2,00m de 51cm à 64cm, léger, thermocollant tel que Pellon®										
C Veste										
115cm**	1,70	1,80	1,80	2,00	2,00	2,20	2,30	2,30	2,40	2,40 m
150cm**	1,50	1,50	1,60	1,60	1,60	1,70	1,70	1,80	1,90	1,90 "
C,D Doublure										
115cm**	1,10	1,10	1,10	1,20	1,20	1,20	1,40	1,40	1,40	1,50 m
Enfilage: 1,40m de 51cm à 64cm, léger, thermocollant tel que Pellon®										
D Veste										
115cm**	1,30	1,30	1,30	1,40	1,40	1,40	1,70	1,70	1,70	1,70 m
150cm**	1,20	1,20	1,20	1,30	1,30	1,30	1,30	1,30	1,30	1,30 "
Garniture: 2,50m de garniture de frange de 7,5cm										
MESURES DES VÊTEMENTS FINIS										
Poitrine Toutes les Vues:										
B Bonnet	83	87,5	90	94	99	104	110	115	120	125 cm
C Bonnet	86,5	89	91,5	95	100,5	106	111	116	121	126 "
D Bonnet	87	90	92,5	96,5	102	107	112	117	122	127 "
DD Bonnet	89	91,5	94	98	103	108	113	117	123	128 "
Longueur finale du dos depuis la base du cou:										
A,B	62	63	63,5	64	65	65,5	66	66,5	67,5	68 cm
C	52	52,5	53,5	54	54,5	55	56	56,5	57	58 "
D	47	47,5	48,5	49	49,5	50	51	51,5	52	52,5 "

Question 9 continued.

- a) Annotate this working drawing for Jacket View C (below) describing as many features as possible: (4 marks)



- b) Suggest a suitable fabric for the jacket pattern **Simplicity 8604** View C and give **TWO (2)** reasons for your choice. (2 marks)

c) Fabric choice: \_\_\_\_\_

Reason 1:

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Reason 2:

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Question 9 continued.

- d) Is the peplum of Jacket C cut on the bias or the straight grain to achieve this style of peplum?  
Circle the correct answer. (1 mark)

Straight Grain

Bias Cut

- e) Give a reason for your answer in part d) of this question.

Reason:

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- f) Using 115cms wide fabric, how much fabric would you need to purchase to make:

Jacket View A in a size 10 \_\_\_\_\_ (1 mark)

Jacket View C in a size 14 \_\_\_\_\_ (1 mark)

- g) Lining is listed as an additional fabric requirement for View C of Simplicity pattern 8604.

Using 115cms wide fabric, how much lining fabric would you need to purchase for View C in a size 10?  
(1 mark)

Amount of lining required: \_\_\_\_\_

- h) Where and why would lining be used in construction of this jacket? (2 marks)

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Question 9 continued.

- i) Interfacing is listed as an additional fabric requirement. Where would interfacing be required in the construction of Jacket View C? (2 marks)

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- j) How much interfacing is required in the construction of Jacket View C? (2 marks)

Interfacing width: \_\_\_\_\_

Interfacing length: \_\_\_\_\_

- k) Notions are required for Jacket View C. List the notions required to make this jacket. (2 marks)

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- l) Jacket View C requires a finish for the bottom of the peplum. Using diagrams and text describe the steps for a suitable finish for this bottom edge of the peplum. (3 marks)

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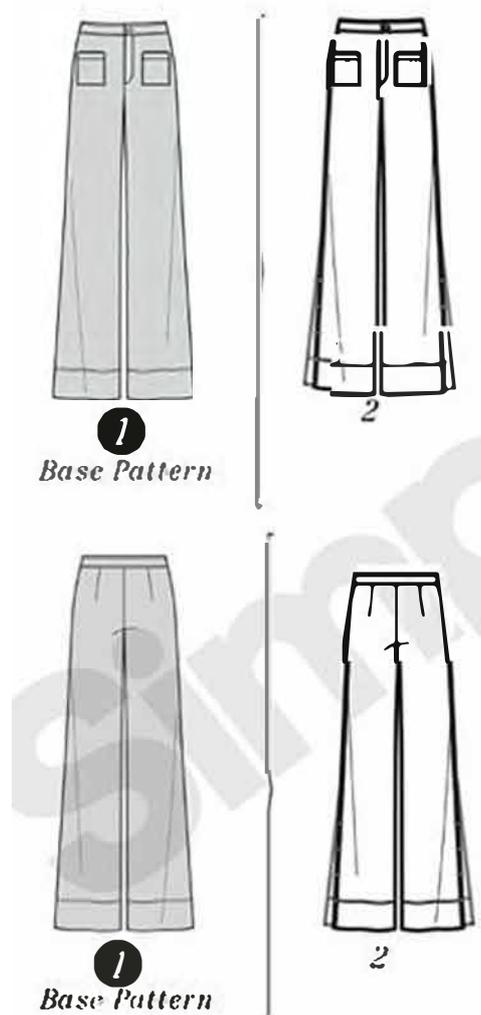
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Diagrams:

This question is about Simplicity Pattern 8701 for the pant illustrated below.



Front view

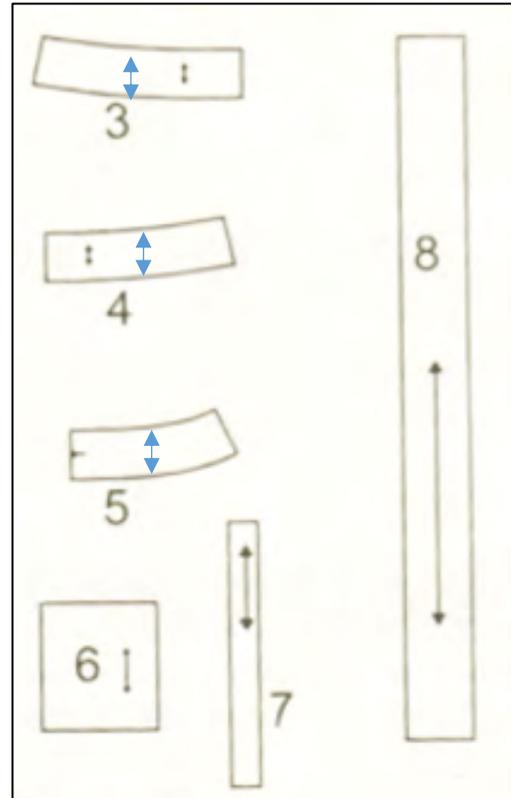
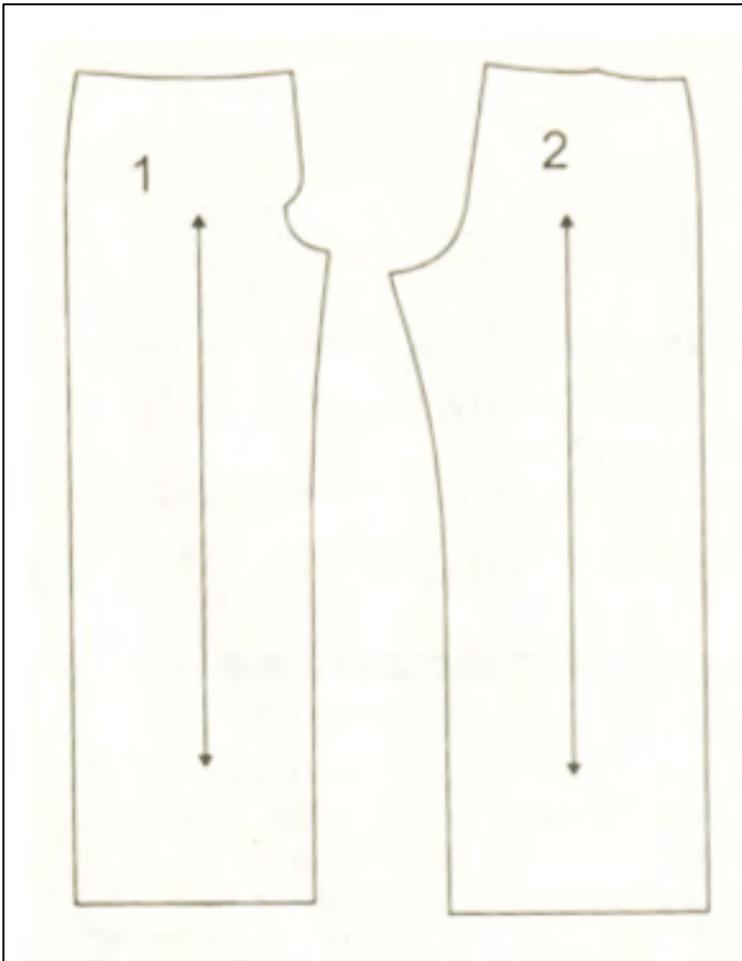


The pattern pieces required to make **Simplicity Pattern 8701** are as follows:

Pattern Piece Number	Name of Pattern Piece
1	Front
2	Back
3	Right front waistband
4	Left front waistband
5	Back waistband
6	Pocket
7	Carrier
8	Tie belt

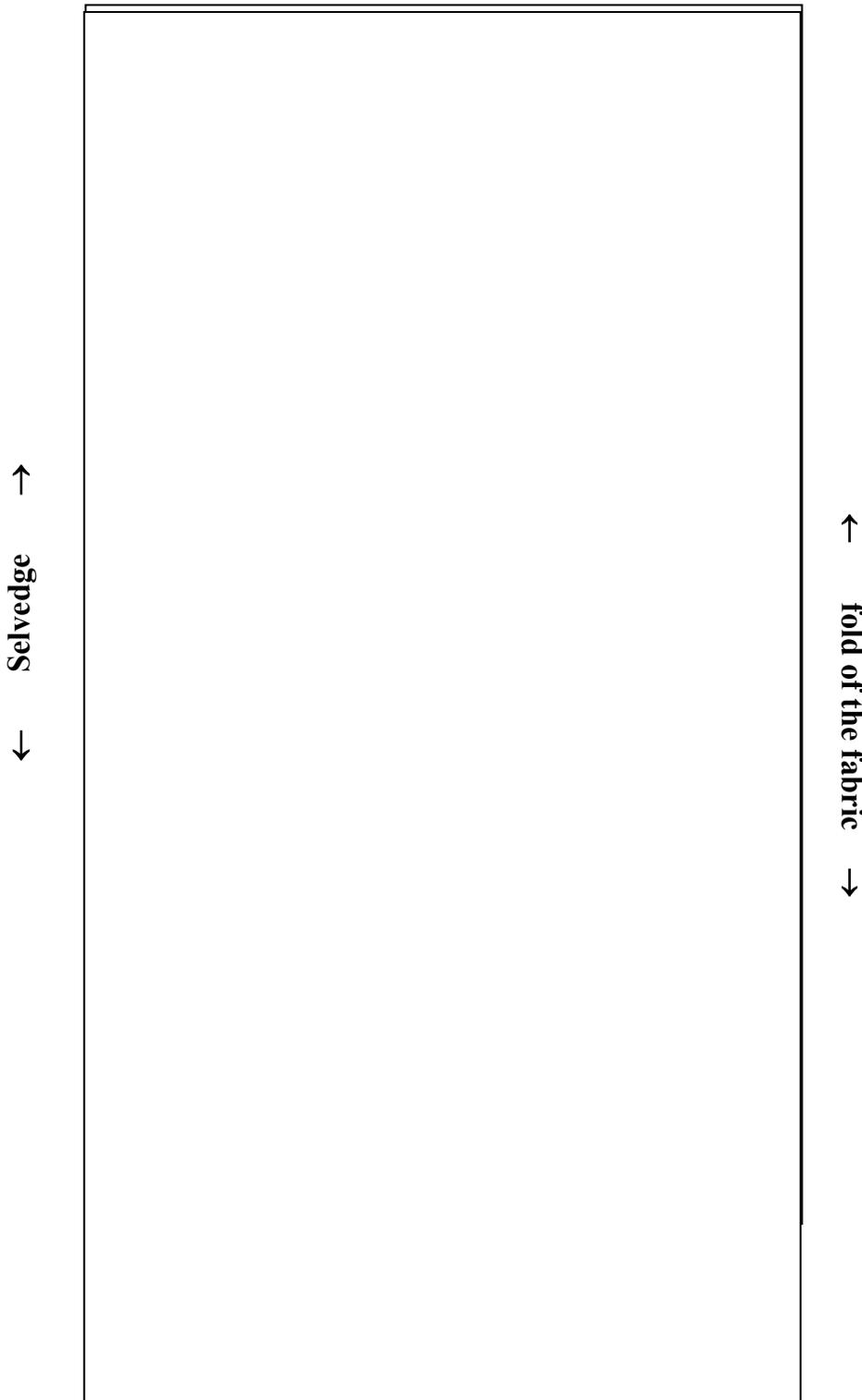
Question 10 continued.

Below are to scale diagrams of the pattern pieces required to make Simplicity Pattern 8701



Question 10 continued.

- a) **Using the separate pink paper of pattern templates for Simplicity Pattern 8701 provided with this exam**, cut out, arrange and glue the pattern pieces onto the fabric layout shown below. Do this to achieve the most economical pattern layout plan for this pant using **150 cm wide corduroy fabric**. (8 marks)



**The fabric shown is a double layer, folded in the centre lengthwise**

**See next page**

Question 10 continued.

- b) The materials required to create **Simplicity Pattern 8701** in a size 12 are as follows:

Corduroy fabric 150cm wide	1.5 metres
Zipper 18cm	1
Button 1.2 cm wide	1
Thread	2 reels
fusible interfacing 51 cm wide	0.70 metre

Fill in the table below to calculate the budget for this pant.

(6 marks)

Item	Width	Cost per/m	Quantity	Cost
Corduroy fabric	150 cm	\$5.88		
Zip	18cms	\$3.99		
Vliesofix (fusible webbing)	51 cm wide	\$7.00		
Thread	100 metres	\$4.10 each		
Button	1.2 cms	\$1 each		
<b>Total Cost</b>				

- c) **Applique** will be used to create a design on this pant. Name the product used to fix the appliqué to the base fabric:

Name of product: \_\_\_\_\_

(1 mark)

- d) Explain the **safety procedures** that need to be implemented when using this product and why they need to be implemented.

(2 marks)

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Question 10 continued

- e) **Satin stitch** is used for the applique. Explain the steps that need to be taken to ensure a good applique stitch is achieved. (3 marks)

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**End of Section Three**

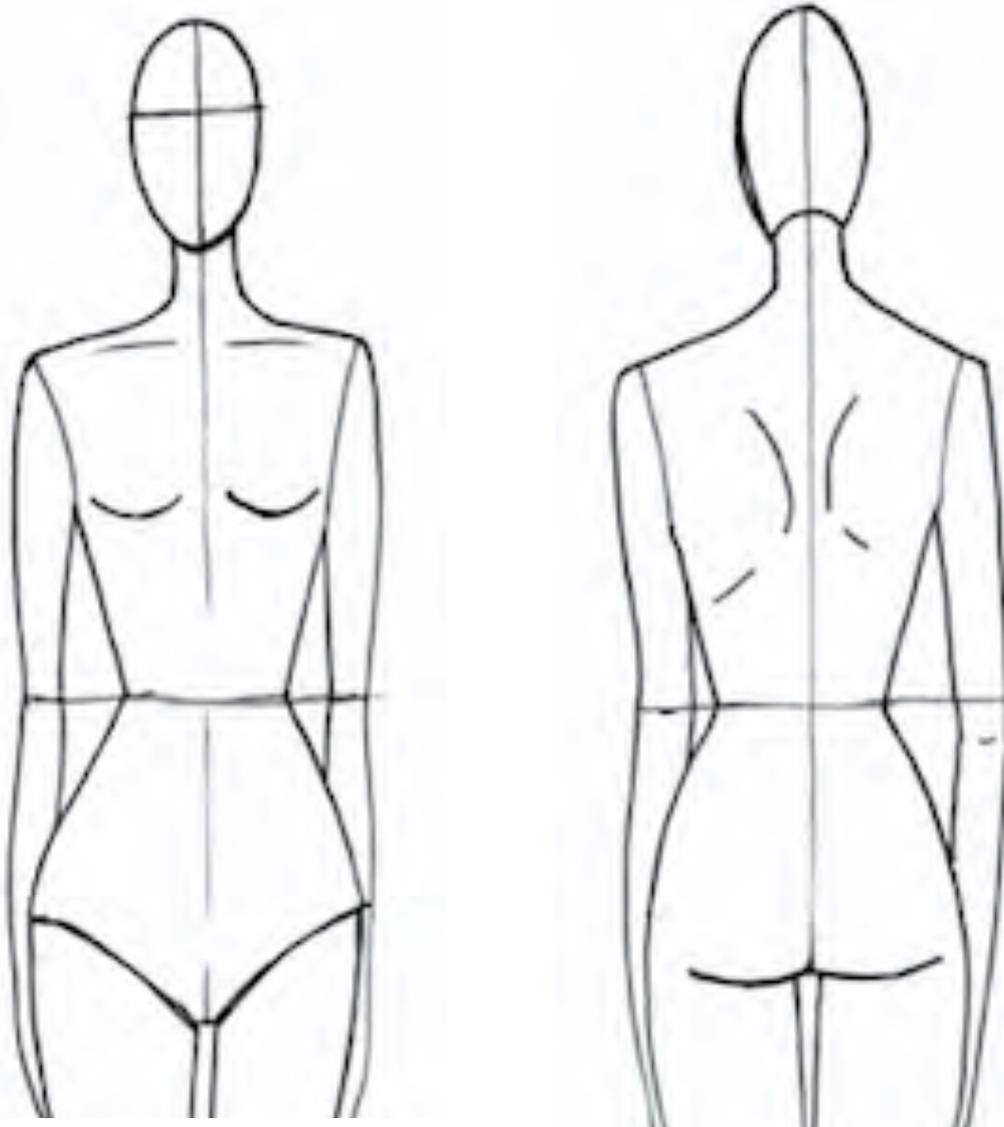
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