

BIKES AND BLOOMERS

VICTORIAN WOMEN'S
CONVERTIBLE CYCLE WEAR
SEWING PATTERNS

#1 PULLEY CYCLING SKIRT

A cycling costume inspired by
Alice Bygrave's 1895 UK Patent #17,145

PATTERN #1

PULLEY CYCLING SKIRT

DESIGN FEATURES

This 'ordinary' A-line skirt features a remarkable hidden pulley system sewn into the front and rear central seams. It operates via an interconnected series of stitched channels, threaded cords, weighted hems and concealed button holes. It is undetectable until the wearer activates the mechanism via cords at the waist. The pulley system converts the costume by raising or lowering the skirt height, much like a curtain, when needed.

THE INVENTOR: ALICE BYGRAVE

ALICE BYGRAVE (born Duerre) of No. 13 Canterbury Road, Brixton, in the County of Surrey, registered a UK patent for 'Improvements in Ladies' Cycling Skirts' on 6th December 1895. She was 36. She lodged the same patent in Canada, Switzerland and America. In 1896 her invention was commercialised and distributed by Jaeger, the British fashion house, as the Bygrave 'Convertible' Skirt and was advertised in popular periodicals such as 'The Lady Cyclist' and 'The Queen: The Lady's Newspaper'. It was sold throughout Britain, in America and even made its way to Australia.

Alice's invention brings built-in engineering, deliberately concealed technologies and creativity to the problem of how to wear an 'ordinary' skirt and cycle safely. Her design appears influenced by the social challenges facing mobile women combined with her skills and interests. Alice identifies as a dressmaker, probably having learned from her mother. Her parents owned a watch and clock-making shop on Kings Road, Chelsea, in West London and her brother, Arthur, and her sister-in-law, Rosina Lane, were professional racing cyclists. Rosina is actually documented wearing the Alice's 'Convertible' Skirt at public cycling events (pictured right).



(Rosina Lane wears Alice's convertible cycling skirt)

“My invention relates to improvements in ladies' cycling skirts and the object is to provide a skirt as proper for wear when the wearer is on her cycle as when she has dismounted.”

Alice Bygrave (1896)



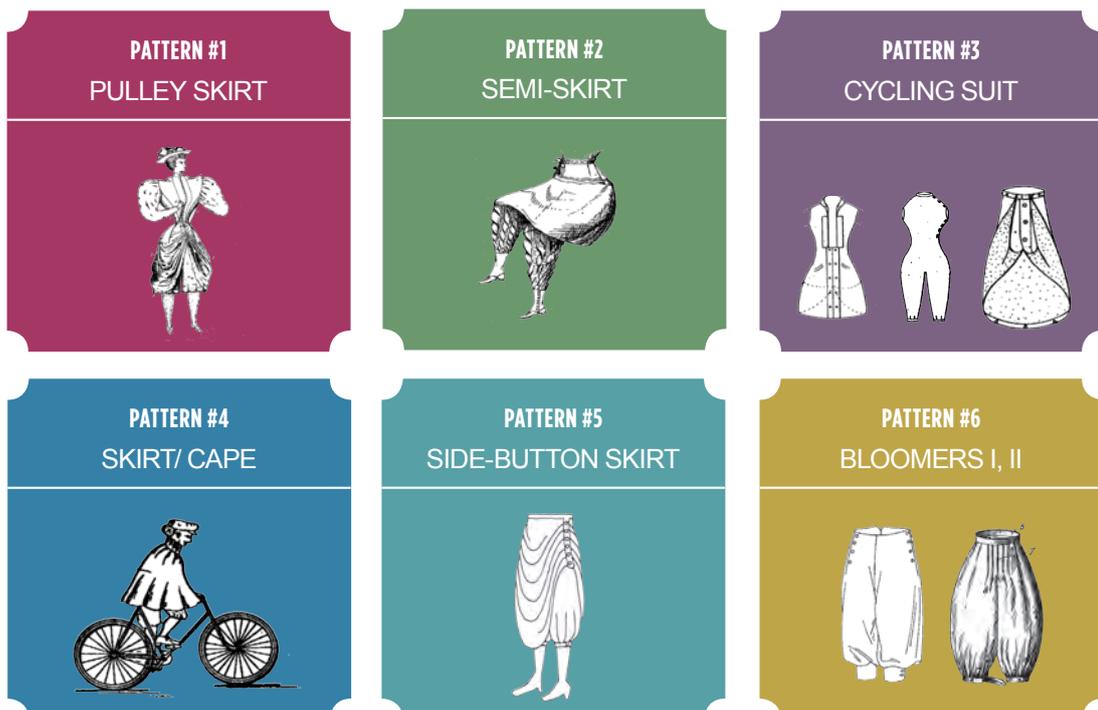
VICTORIAN WOMEN'S CONVERTIBLE CYCLE WEAR SEWING PATTERNS

Victorians enthusiastically took to the bicycle. Yet women had to deal with many social, political and material challenges to their freedom of movement. Cycling in 'ordinary' dress could be dangerous as it wrapped around pedals and caught in wheels. Wearing more 'rational' cycle wear, such as shorter skirts and bloomers, was more comfortable, but not necessarily safer as some parts of society were threatened by the sight of this progressive 'New Woman' carving new modes of gendered independence in public space. Onlookers sometimes hurled abuse and stones! However, nothing was going to stop women from cycling. In response, some creatively protested against restrictive ideas of how a woman should act and move in public through their clothing, by designing **convertible costumes** that enabled wearers to switch from street wear to cycle wear when needed. Luckily for us, these inventive women not only imagined, made and wore radical new forms of cycle wear - they also patented their designs!

Six sewing patterns in this collection (comprising a total of nine different garments) are inspired by convertible cycle wear patents lodged in the 1890s by inventive British women. They form part of an ESRC funded **Bikes & Bloomers** sociology project led by Dr Kat Jungnickel at Goldsmiths, University of London, with Rachel Pimm, Nadia Constaninou, Alice Angus and Britt Hatzius. More about the lives of these fascinating inventors is in *Bikes & Bloomers: Victorian Women Inventors and Their Extraordinary Cycle Wear* (Goldsmiths Press). Along with the book, these patterns bring to life some of the inspiring cycling, sewing and suffrage stories that have helped shape how we cycle today. They also (still) provide useful ideas for functional clothing that works on and off the bike. We look forward to seeing what modern sewing cyclists make with them.



PATTERN COLLECTION





SEWING PATTERNS

PATTERN #1

PULLEY CYCLING SKIRT



Pattern #1 is a long A-line skirt with a pulley system sewn into the front and rear central seams. The wearer converts the skirt using a system of stitched channels, threaded cords and weighted hems. This raises or lowers the skirt height, much like a curtain. **Requirements:** 2.5m fabric, 4 x 1.5m woven cord, 4m bias tape, 4 small weights and 4 buttons.

This pattern is approx UK size 12 and will need to be customised to fit as required. Minimal instructions are provided. See our mistakes, workarounds and suggestions at: bikesandbloomers.com

BIKES & BLOOMERS CONVERTIBLE CYCLE WEAR SEWING PATTERNS:

- #1 – Pulley cycling skirt
- #2 – Cycling semi-skirt
- #3 – 3-piece cycling suit
- #4 – Cycling skirt/cape
- #5 – Side-button skirt
- #6 – Cycling bloomers I, II

All sewing patterns are free to download. Profits from the sale of printed patterns go to the London Bike Kitchen, a DIY workshop. Please share your cycle wear creations with us on [Twitter](https://www.instagram.com/bikesandbloomers) [Instagram](https://www.instagram.com/bikesandbloomers) #bikesandbloomers & www.bikesandbloomers.com

RESEARCH PROJECT
Kat Jungnickel
SILK LINING ARTWORK
Alice Angus
COVER PHOTO
Charlotte Barnes

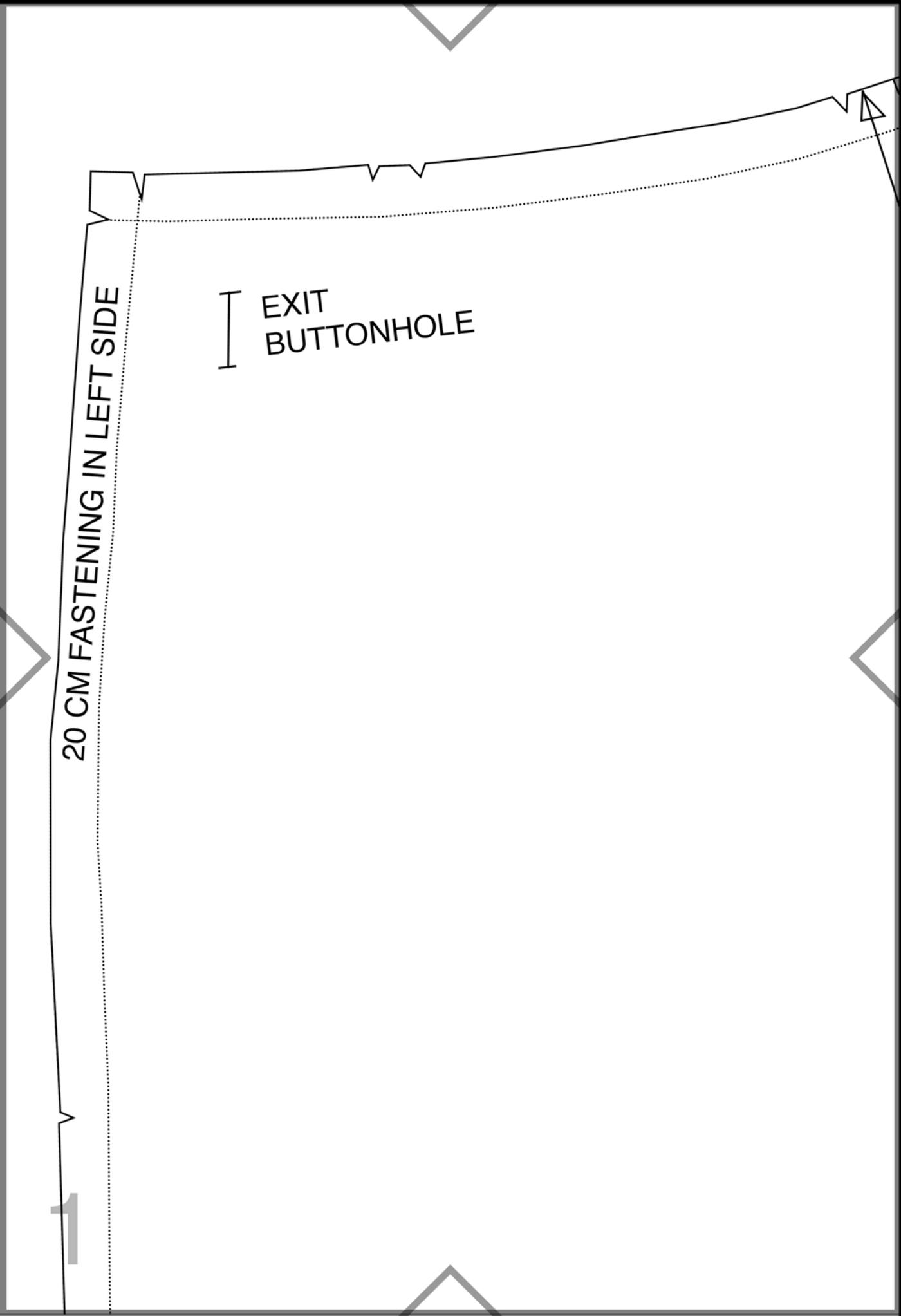


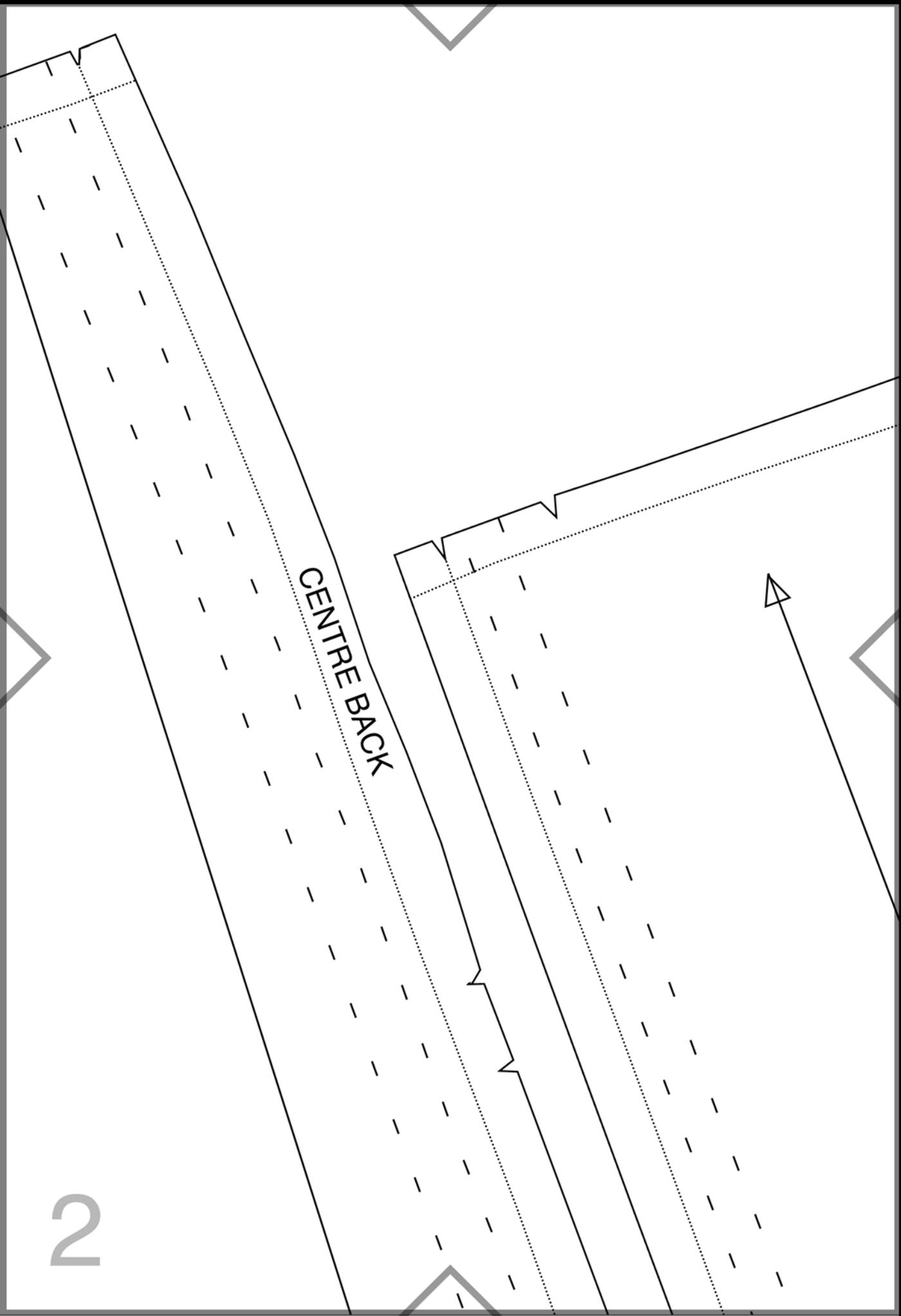
Goldsmiths
UNIVERSITY OF LONDON



20 CM FASTENING IN LEFT SIDE

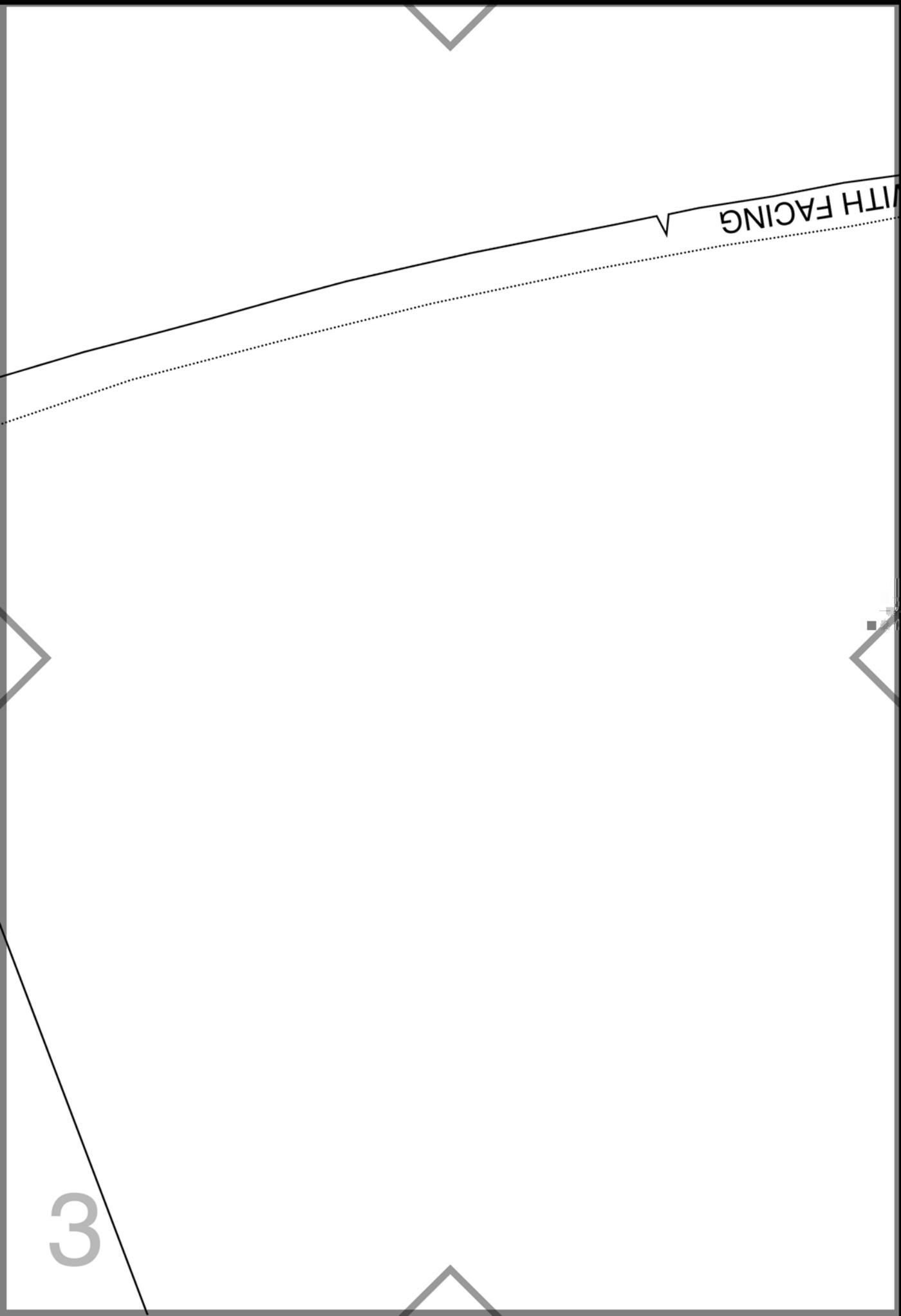
EXIT
BUTTONHOLE





CENTRE BACK

2



WITH FACING

3

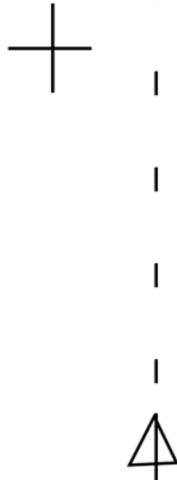
BAG OUT HEM W

4

ONCE JOINED, TURN AND TOPSTITCH TO INSIDE FRONT SKIRT

5

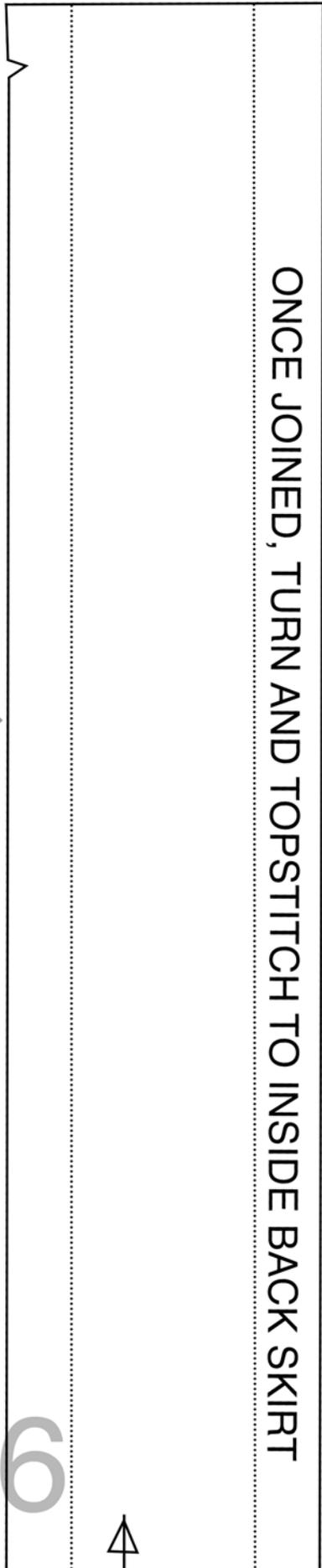
LINE



ONCE JOINED, TURN AND TOPSTITCH TO INSIDE BACK SKIRT



6



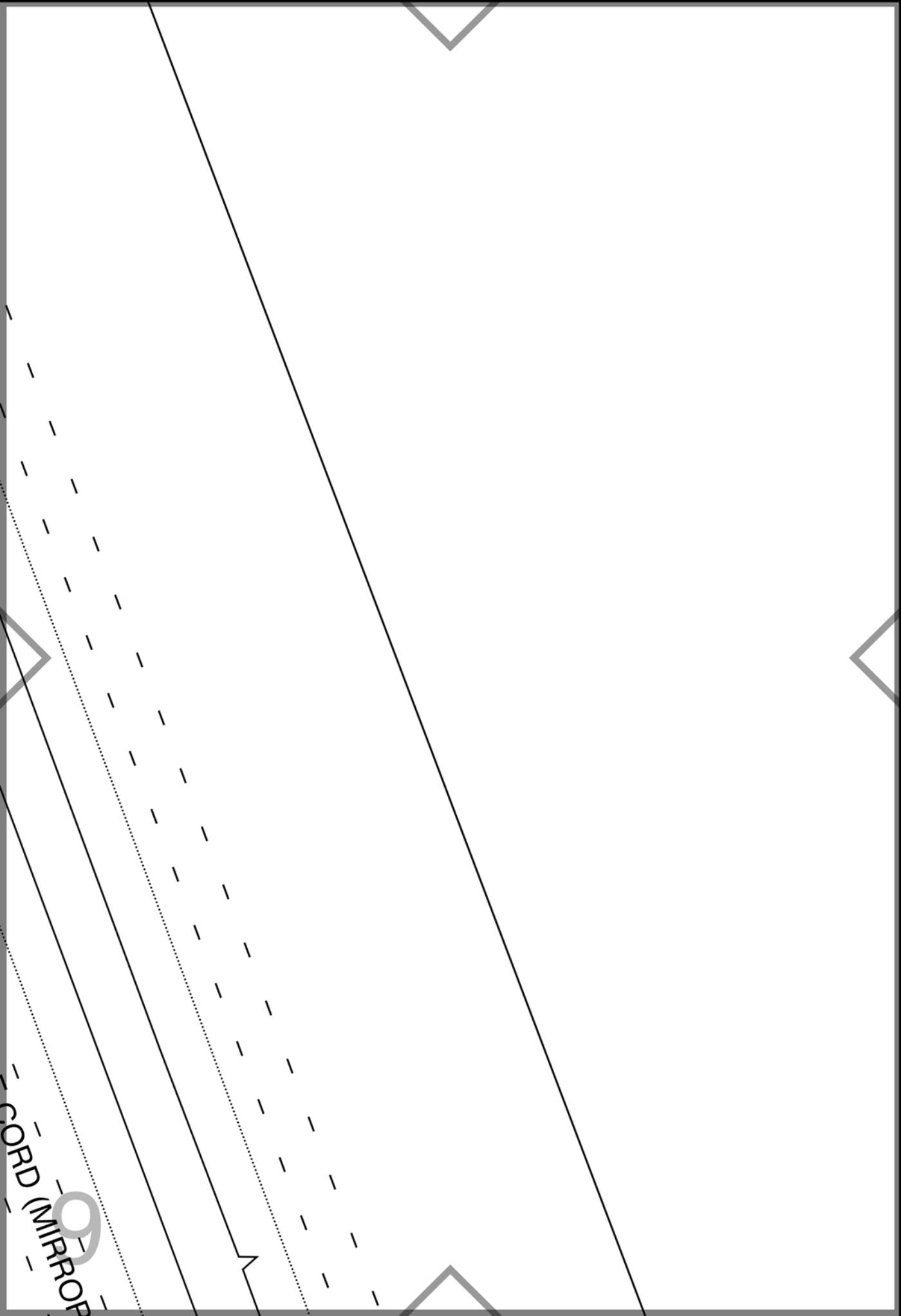
ALICE LOUISA BYGRA

SKIRT BACK
CUT 1 PAIR SELF

7

2 ROWS OF TOPSTITCHING ON CHANNEL TO ENCASE

CORD (MIRROR



10

GRAIN LINE



1
2

GRAIN LINE

GRAIN I



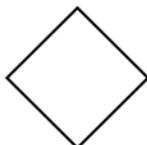
ERFACING

13

CUT OR FOLD TO PRINT SAFE BOX

LINE UP SHAPES

STICK TOGETHER



CUTTING LINE _____

SEAM ALLOWANCE

SEW FRONT AND BACK SKIRT PIECES TOGETHER

SEW TOGETHER FACINGS

BAG OUT FACINGS WITH LINING

MAKE CHANNELS AND TOPSTITCH TO FRONT AND BACK CENTRES

MAKE AND BAG OUT PLACKET AND TOPSTICHTH DECORATIVELY

THREAD CORD OR RIBBON THROUGH CHANNELS WITH SAFETY PIN

COVER AND INSERT WEIGHTS AND ATTACH CORDS AT ENDS

FIX SKIRT, LINING AND PLAKET INTO WAISTBAND

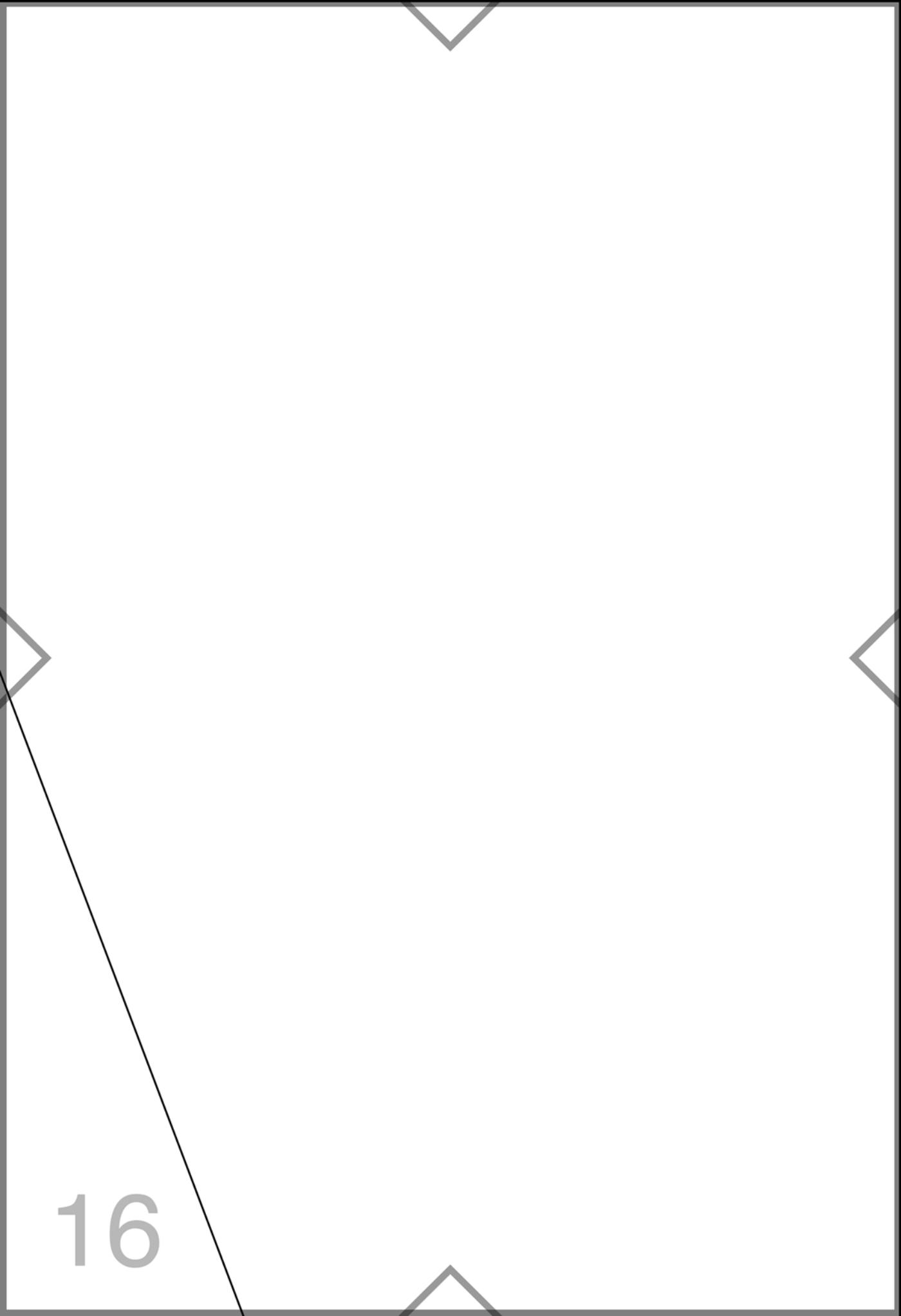
HAND SEW WAISTBAND CLOSED

ADD FASTENINGS AND BUTTON TO KEEP PLACKET DOWN

SEW BUTTONHOLES TO FRONT TO ACCESS TO CORD PULLEY SYSTEM

LEFT AND RIGHT, SHARE CENTRE TOPSTITCH AFTER JOINING 2 PARTS OF CORD CHANNEL

NOT



16

RT

FRONT CORD CASING
CUT 1 PAIR LINING

18

BACK CORD CASING
CUT 1 PAIR LINING

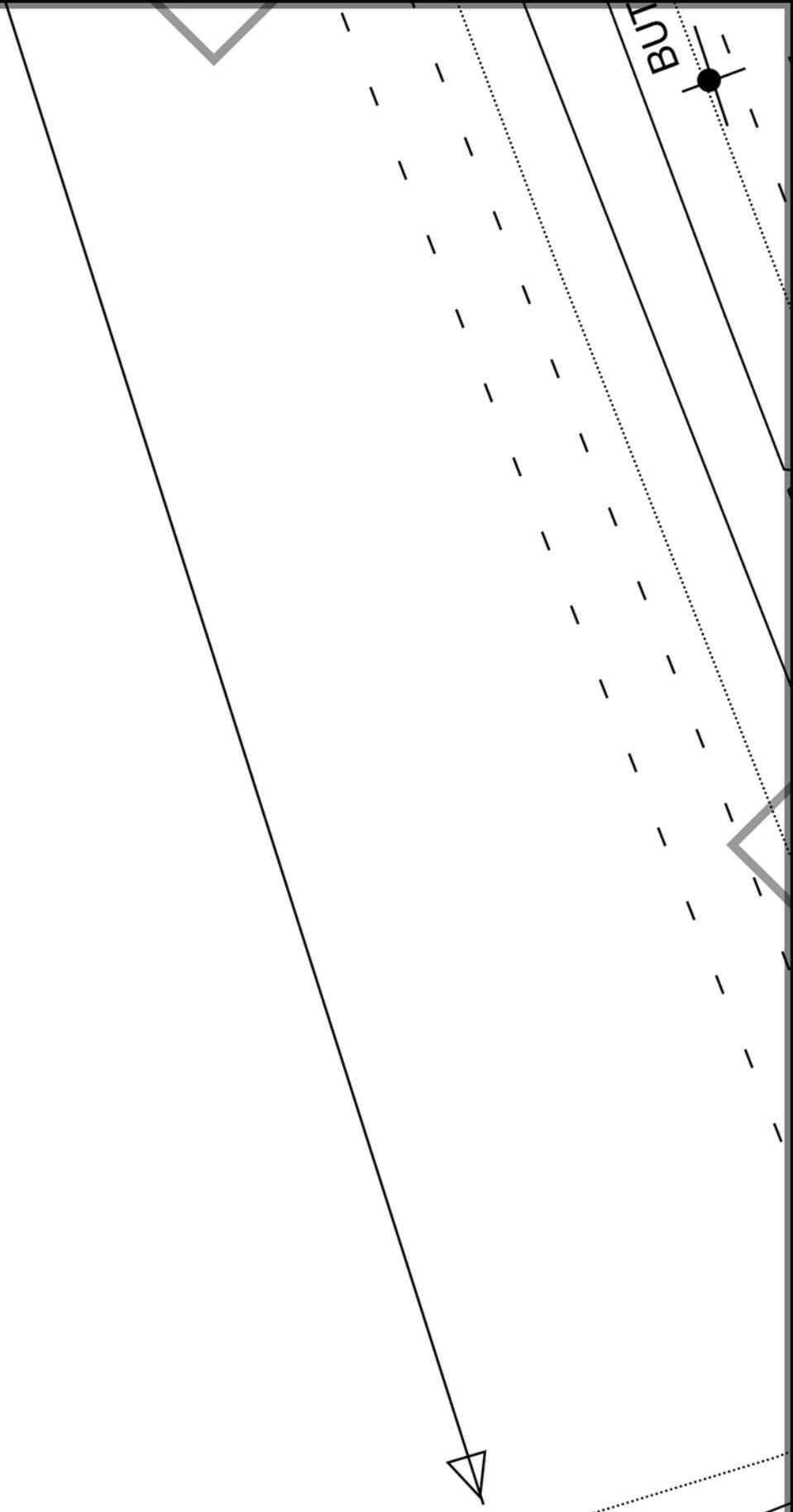
OLD

WAISTBAND

CUT 1 SELF

CUT 1 FUSE INTER

BULL



ENCASE CORD
TOP STITCH TO

T
SELF

FOR CON

CENTRE FRONT

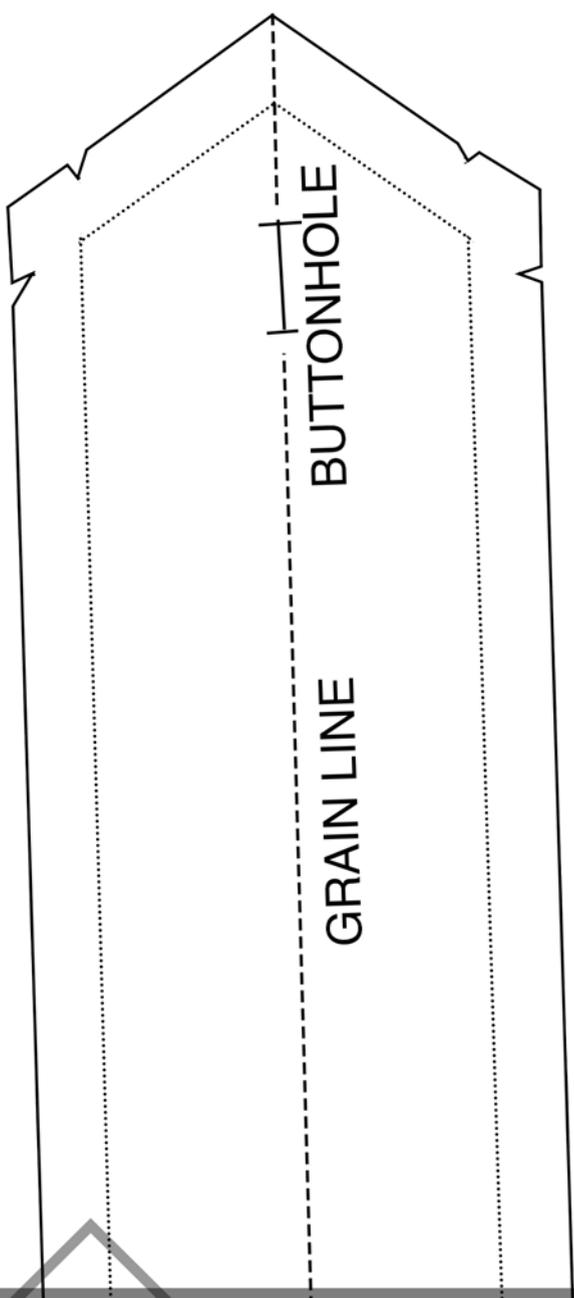
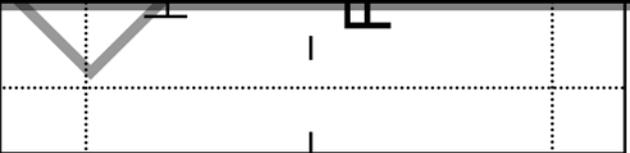
SEW HALVES TOGETHER FIRST AND ATTACH RIGH

20 CM OPEN FOR FASTENING ON LEFT SE

BUTTONHOLE

23

SKIRT FRON
CUT 1 PAIR



GRAIN LINE

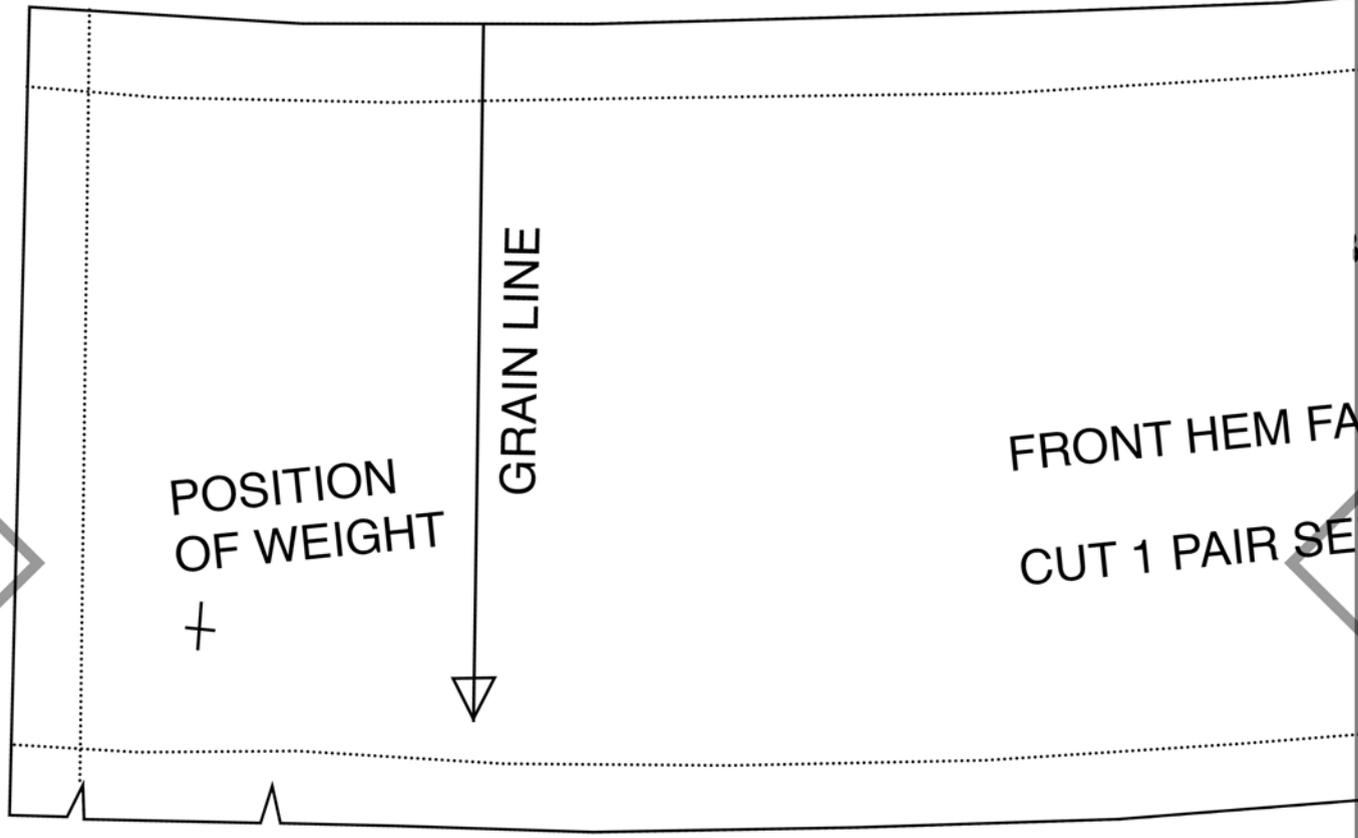
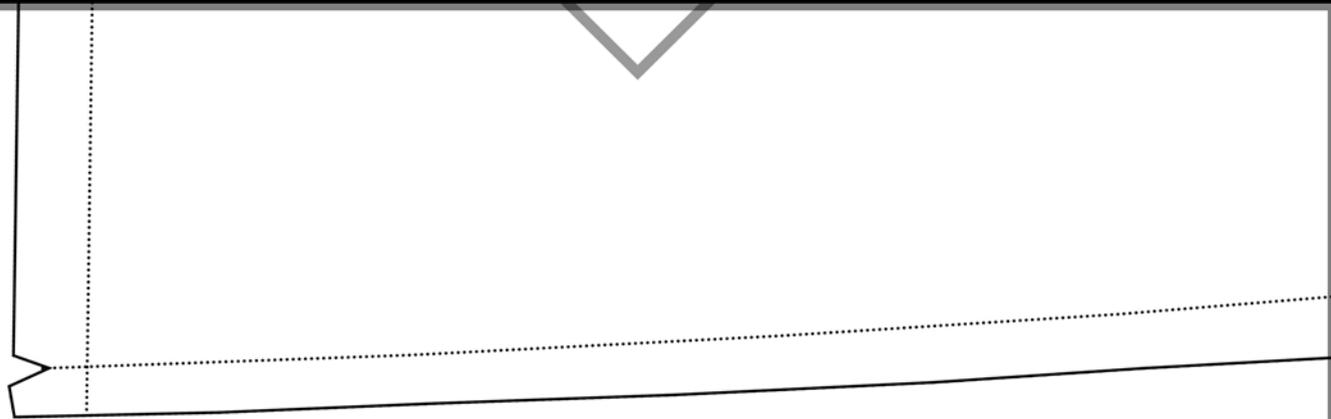
BUTTONHOLE



CENTRE BACK

SEW HALVES TOGETHER FIRST AND ATTACH RIGHT

4



POSITION
OF WEIGHT

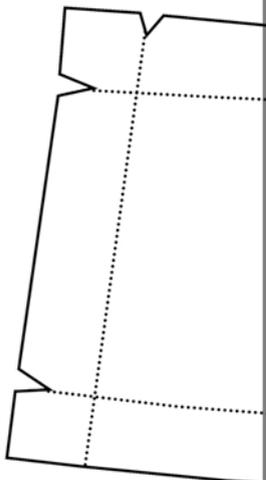


GRAIN LINE



FRONT HEM FA

CUT 1 PAIR SE

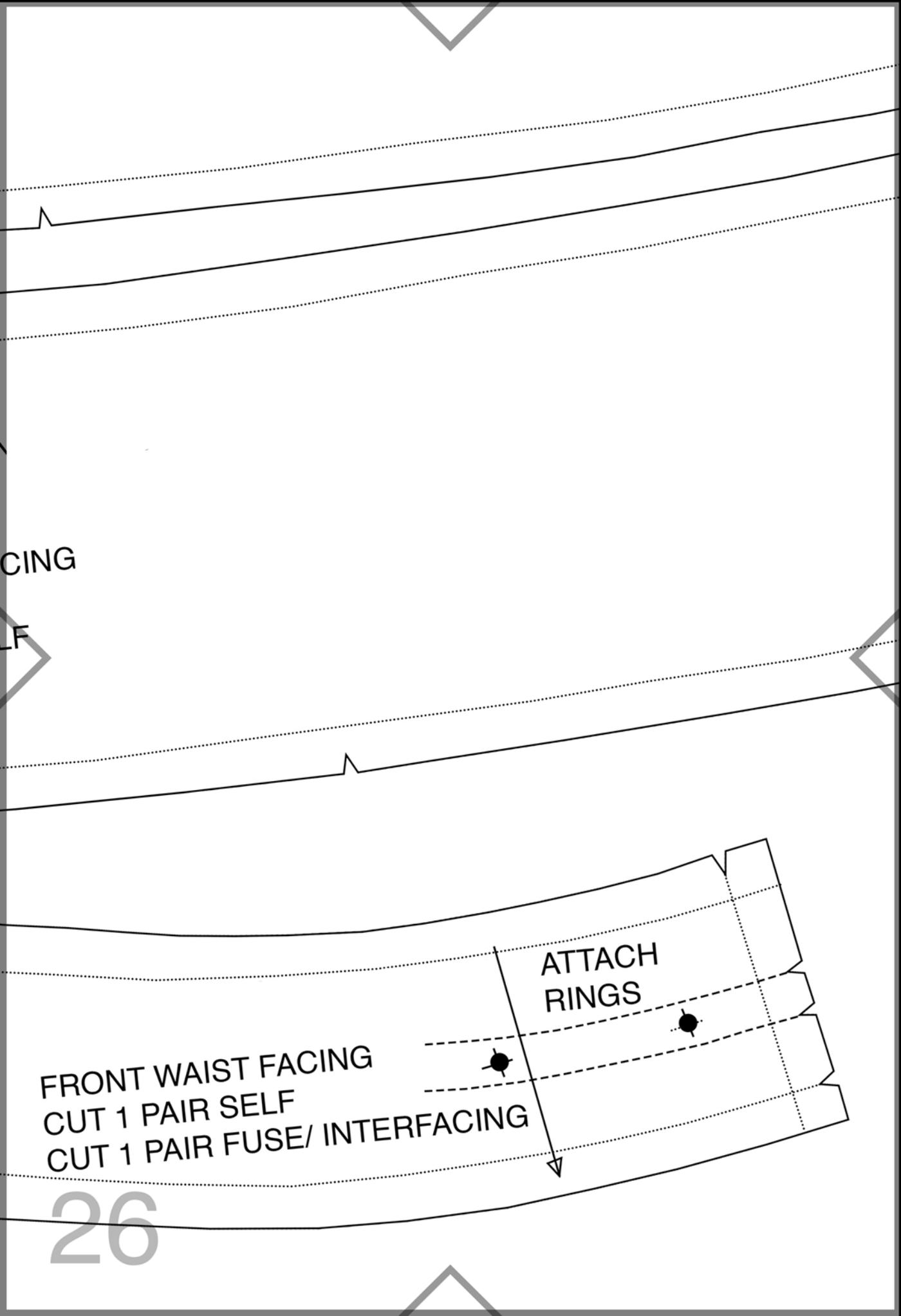


CING

LF

FRONT WAIST FACING
CUT 1 PAIR SELF
CUT 1 PAIR FUSE/ INTERFACING

ATTACH
RINGS

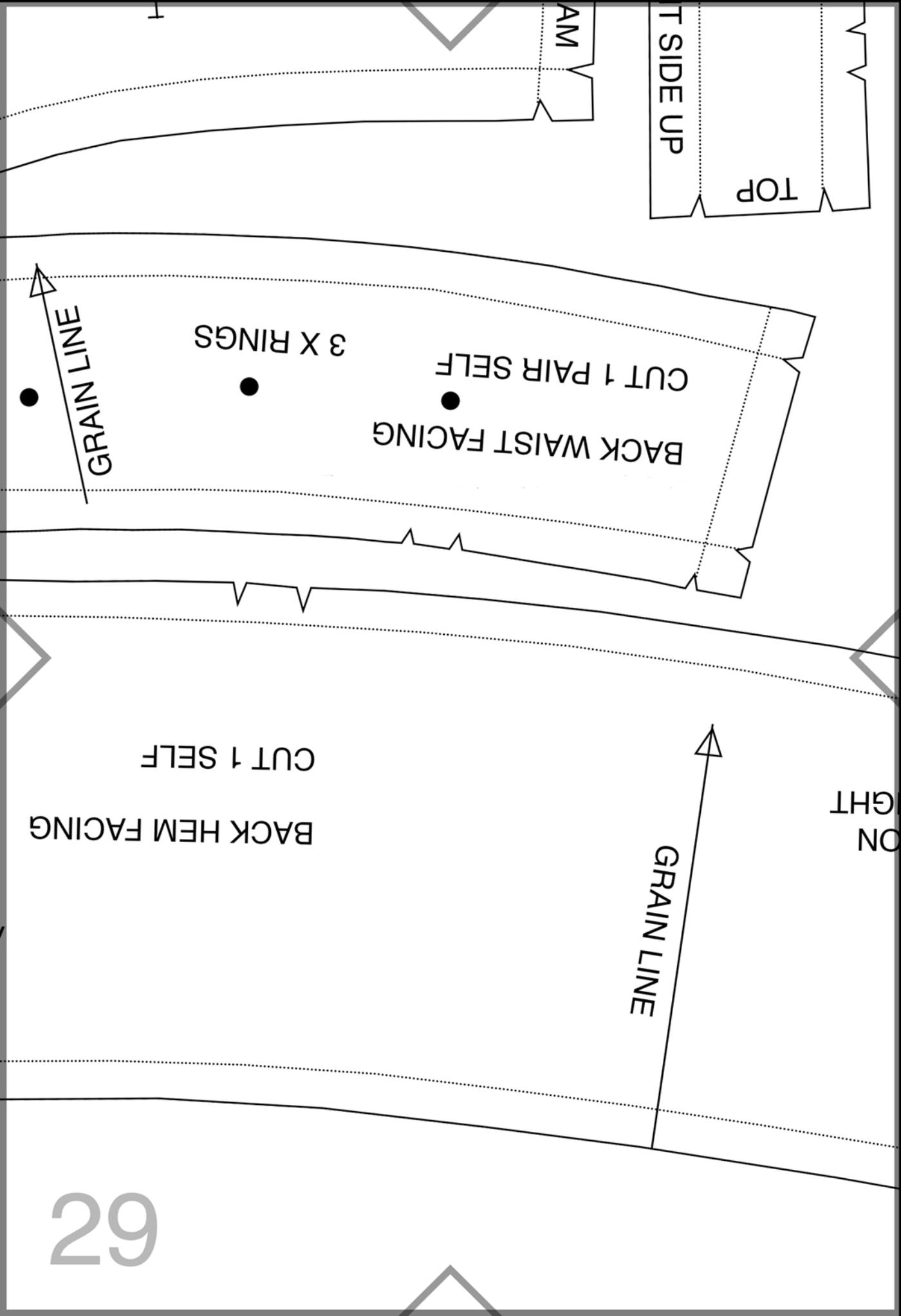


CENTRE FROM

EXIT
BUTTON
HOLE

SPDS

AVE SKIRT



TOP
T SIDE UP

AM

BACK WAIST FACING
CUT 1 PAIR SELF

3 X RINGS

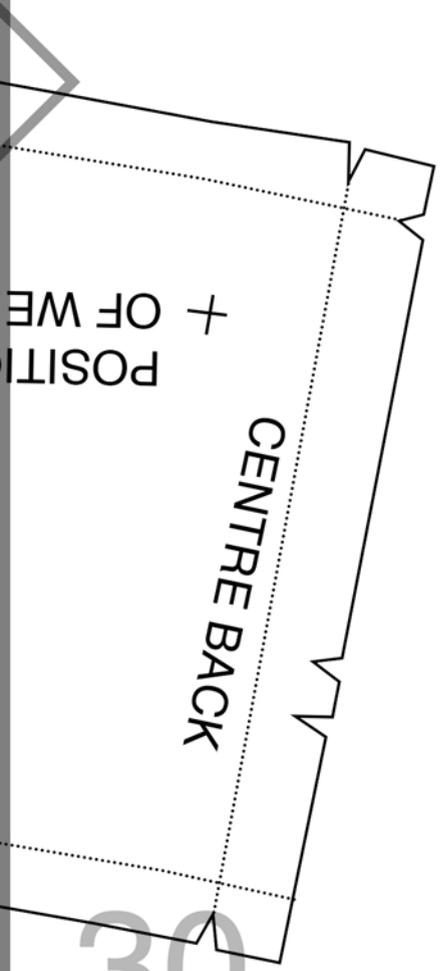
GRAIN LINE

ON GHT

GRAIN LINE

CUT 1 SELF

BACK HEM FACING



CENTRE BACK

POSITION + OF WE

30

SIDE UP



TOP

BAG OUT

CENTRE FRONT PLACKET

CUT 1 SELF
CUT 1 LINING

BAG OUT