

# Metric Pattern Cutting for Women's Wear

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# Metric Pattern Cutting for Women's Wear

Fifth edition

Winifred Aldrich

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## Introduction

**Revised edition 2008** This fifth edition of the original book remains true to its original concept, which offered a range of good basic blocks, an introduction to the basic principles of pattern cutting and gave a few examples of their application into garments. The principal aim was to give students confidence in their ability to develop a unique style of pattern cutting and to offer tutors a starting point from which they could extend their students' knowledge.

The new inclusions offered in the 2004 edition remain. These responded to the way fabrics and fashion have changed the cut and sizing of garments in different manufacturing processes. The great expansion of casual wear, in jersey or stretch fabrics, has led to the expansion of *flat cutting* with no darting to create the shape. The 2004 edition devoted a whole section to this type of cutting and the section has been extended in this edition. However, students have to understand how to create shape through cutting alone, in fact, *form cutting*, and therefore the first section of the book still covers this technique.

The major difference in this new edition is the *introduction of colour*. This will help students to recognize the different coded sections in the book. The addition of colour offers a major improvement to the updated chapter on computer-aided design (CAD). This now offers to first year design and clothing students a good introduction to the technology.

The size charts have been revised in order to respond to changes in body sizing, co-ordination with European size charts and to the ways that clothes are marketed to different sectors of the population. As many of the stores selling High-street fashion are attracting younger 'early teen' customers, the size chart for this market sector has been extended down to a size 6.

The book remains written for beginners, students who are starting practical pattern cutting as part of

fashion degree or diploma courses or for students in upper schools who are studying advanced dress and textile subjects. Chapter 13 deals specifically with drafting the block for individual figures. This will be useful for women who make clothes for themselves, in order to create and develop their own individual style, or women who find mass produced clothes an uneasy fit.

Some garment patterns, particularly in couture design, are constructed by draping on the dress stand. However, pattern cutting from blocks or adaptation of existing patterns is now widely used by the dress trade because of its accuracy of sizing and the speed with which ranges can be developed. Pattern cutting by this method is a means of achieving a shape around the body so that, although the body and therefore the body blocks remain constant, there is no limit to the ideas that can be followed through into workable designs. However, the designer must always be conscious that the body is a form. This can be difficult when one has to relate flat pieces of paper to a design that is basically sculptural when it is completed. In addition, the form will move and this must be exploited in the cut of the garment. A moving shape is more visually exciting than a still form, but there are practical problems to be considered in allowing for this movement. The system of pattern cutting offered in this book attempts to make the student more fully aware of designing round the figure rather than seeing it as a body that possesses only a front view.

Pattern cutting should be used in conjunction with a dress stand. This means that as the design evolves, proportion and line can be checked and corrected. Pattern cutting can achieve a shape quickly, but more complicated styles should be made up into a muslin or calico toile so that the result can be assessed on a form or a moving figure.

## Pattern cutting and design

Pattern cutting by adapting shapes from block patterns can be traced back to the middle of the nineteenth century. As the craft developed the basic rules evolved, but rules can be broken or changed if this comes from new creative directions. This concept of design has been responsible for the most exciting changes in shape and cut during the last century. Poiret, Vionnet and Chanel, sensitive to social and aesthetic influences, 'promoted the body' after it had been enclosed in structures for a century. Although their interpretations differed, they were the innovators of soft, easy fitting clothes. Today, the changing social attitudes of many women have changed their attitudes to fashion; they buy clothes to satisfy themselves and they are not prepared to be restricted to a dictated line for a season or by an outdated image of femininity.

Marrying design to fashion is a difficult process; it can be overwhelmed by bizarre effects created by some stylists in the fashion media. They have produced alternative images to the classic stylised fashion page by their eclectic choice of garments and their role has become increasingly important because of the power they have to begin or influence major trends.

Designing at the level of couture or small designer collections is very different from that of designing for a mass market. Garments created for an individual client give a designer more freedom. The cost factor becomes less important and this allows the original idea to be carried through. Interesting fabrics that are difficult to handle can be used, and their surface qualities emphasised by decorative techniques. The 'cut' of the garment is usually determined by draping on the stand, where the intricacies of the cut can be developed. Designing for individual clients allows the personality of the wearer to be fused with the original idea. The rise of celebrity in the music industry and the media has developed a new, exciting market for some top designers; it is a means by which they can promote their designs and their name. Most major designers also create 'designer collections' which are produced by manufacturing processes but the high price of the garments allows the 'signature' of their cut to remain and limited runs of specially printed or woven fabrics to be used.

The most limiting factors in designing for mass production are price and the production processes. Clothes also have to have 'hanger appeal'; that is, people will be tempted to try them on or buy them for their look alone. Often dresses that look sensational on a moving body can look limp and featureless on a clothes rail. There are two types of successful designers in the mass production fashion trade. The first group is employed by 'production-led' manufacturers; these designers can develop current fashion shapes but recognise that fabric

economy and repeat making-up methods are the priority. The second group is employed by 'design-led' manufacturers; they are able to produce original ideas and experiment with new fabrics and production processes.

There are some basic elements of design that affect or may limit a designer in any field.

**Colour and pattern** These are the most dominant features in a fashion trend. Each season a colour theme emerges, occasionally spontaneously, sometimes influenced by top designers. However, most mass retailers rely on the style and colour predictions of the major forecasting agencies. New technologies now offer a revolution in printed textiles. Instead of allover repeat designs, unrepeating patterns and new scales of pattern can be achieved, thus offering new concepts in which decoration is integral to the whole design.

**Fabric quality** New technologies have also expanded the range of fabrics available to a designer. The aesthetic qualities of a fabric are often the inspiration which initiates a design. However, in creating a new shape a designer has to consider five crucial fabric qualities which could realize or destroy it. These are: *weight, thickness, shear, drape* and *stretch*. Whilst large companies have testing procedures that can determine technical measures, the designer often has to make instant judgements and therefore has to be able to estimate the qualities of a fabric and idealise the final effect.

**Shape** Whilst recognising the crucial role that fabric choice plays in the realisation of design, its success rests with the quality of the pattern cutting. The domination of stretch fabrics in the mass market have meant an expansion of simple *flat pattern cutting* techniques which rely on the stretch in the fabric to create the body shape. But stretch fabrics can be married with *form cutting* to give quite different effects. Bias cutting adds to the drape quality of fabrics, and the use of layers can affect the weight and thickness of the design. *Form cutting* of close fitting garments in fabrics without shear or drape, such as stiff silks, requires great skill.

**Line** The interpretation of line and cut is the most complex part of a designer's work. Once a fashion shape becomes established, the variations in cut to achieve it are infinite. The designers must use their skills to produce a range that will translate the latest fashion across a range of sizes.

### Garment sampling

Garment samples are prototype garments that are made up so that the designer can check and refine both the pattern and the construction of the garment.

In the early stages of the process a dress stand will be used, but final decisions are usually taken when a live model wears the garment. It is at this stage that the other major design decisions, *colour* and *pattern*, *fabric quality*, *shape* and *line* can finally be assessed.

It should be noted that at the present time much discussion has been taking place in the fashion press about the unreality of some designers using size 6 or size 8 models to display clothes, when the average size for women is approximately size 14.



## Fabrics

Designers have to acquire a deep understanding of the qualities of fabrics. Many designers specialise in designing a particular product, for example lingerie or sportswear. This means that they have to understand the basic properties of fabrics and testing procedures and be assured that the fabric will perform well for their particular product.

The designer has to become familiar with the types of woven and knitted structure of fabric. Knowledge of the basic source of fabrics and how this affects the enormous number of finishes that can be applied to fabrics has to be acquired. However, the most important qualities that a designer must consider when creating a design are: *weight*, *thickness*, *drape*, *stretch* and *shear* (the amount the fibres distort

in the warp and weft). These qualities will affect quite dramatically how a pattern will be cut and how the final shape will be realised. A list of fabrics is shown below that is categorised into the different fabric weights. Weight and thickness are generally closely linked, but some thick pile fabrics constructed with man-made fibres can be deceptively light. Shear and drape are also often closely linked – these qualities allow the cutting of soft body skimming shapes. Today, the popularity of stretch fabrics, both woven and knitted, has been the most influential factor in cutting for mass produced garments. In the edited list of fabrics below, knitted fabrics are listed in all columns because of the huge variety in different weights.

Light-med.	Medium	Med.-heavy	Heavy
Afgalaine	Alpaca	Bedford cord	Astrakhan
Angora	Bagheera	Bouclé	Beaver
Bengaline	Barathea	Broadcloth	Double
Cashmere	Bark crêpe	Burlap	Duffle
Chino	Brocade	Camel hair	Felt
Chintz	Butcher	Canvas	Fur fabric
Ciré	Calico	Chenille	Knitted fabric
Crepon	Cavalry twill	Cheviot	Loden cloth
Dupion	Cloqué	Corduroy	Melton
Faille	Coutil	Donegal tweed	Plush
Foulard	Covert	Drill	Quilted
Gingham	Crêpe	Duck	
Homespun	Damask	Dungaree	
Honan	Denim	Duvetyn	
Knitted fabric	Doeskin	Flannel	
Lamé	Façonne velvet	Fleece	
Matelasse	Gabardine	Flock	
Mohair	Grenadine	Fustian	
Moiré	Grosgrain	Harris tweed	
Ottoman	Haircord	Honeycomb	
Panama	Hopsack	Intarsia	
Percalé	Jacquard	Knitted fabric	
Piqué	Jean	Llama fabric	
Sateen	Knitted fabric	Moleskin	
Satin	Panne velvet	Tapestry	
Shantung	Repp	Ticking	
Sharkskin	Sailcloth	Tweed	
Slipper satin	Saxony	Velour	
Surah	Serge	Venetian	
Taffeta	Suitings	Vicuna fabric	
Tricot	Tartan	Whipcord	
Tussore	Velvet	Worsted	
	Velveteen		

## Tools and equipment for making patterns

A student should aim to acquire a good set of equipment. However, some items are very expensive. The items marked with an asterisk (\*) denote those that are not essential immediately.

*Working surface* A flat working surface is required. Ideally, it should be 90–92 cm high.

*Paper* Strong paper is used for patterns. Parchment or thin card should be used for blocks that are used frequently.

*Pencils* Use hard pencils for drafting patterns (2H), coloured pencils for outlining complicated areas.

*Fibre pens* For writing clear instructions on patterns.

*Rubber*

*Metric ruler*

*Curved rule* For drawing long curves.

*Metre stick*

*Set square* A large set square with a 45° angle is very useful; metric grading squares can be obtained.

*Metric tape measure*

*Tracing wheel*

*Shears* Use separate shears for cutting cloth and paper as cutting paper will blunt the blades.

*Sellotape*

*Pins*

*One quarter and one fifth scale squares* These are essential for students to record pattern blocks and adaptations in their notebooks.

*Stanley knife*

*Tailor's chalk* For marking out the final pattern onto the cloth and for marking fitting alterations.

*Toile fabrics* Calico is used for making toiles for designs in woven fabrics. Make sure the weight of the calico is as close to the weight of the cloth as possible. Knitted fabric of the same stretch quality must be used for making toiles for designs in jersey fabrics.

*\*Metric square*

*\*Calculator* The calculator is now a common tool in all areas of skill. If a calculator is not available use the table of aliquot parts (see Appendix, page 212).

*\*French curves* Plastic shapes and curves are available in a range of sizes; they are useful for drawing good curves. A flexicurve which allows a shape to be manipulated is also available.

*\*Pattern notcher* This is a tool that marks balance points by snipping out a section of pattern paper.

*\*Pattern punch*

*\*Pattern hooks*

*\*Pattern weights* These keep pieces of pattern in position on paper or cloth.

*\*Model stands* Although not essential for a beginner, they are invaluable to the serious student for developing designs.

*\*Computer equipment* A description of computer equipment can be found on pages 191–211.

The equipment above can be obtained from:

*Franks Ltd, Kent House, Market Place, London*

*W1W 8HY. Tel: 0207 636 1244;*

*e-mail: info@rdfranks.co.uk*

*Morplan, 56 Great Tichfield Street, London*

*W1W 7DF. Tel: 01279 435 333;*

*e-mail: web.support@morplan.com*

*Eastman Staples Ltd, Lockwood Road, Huddersfield*

*HD1 3QW. Tel: 01484 888 888;*

*e-mail: enquiries@eastman.co.uk*

## PART ONE: CLASSIC FORM CUTTING

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### 1 The basic darted bodice blocks

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<i>Constructing blocks</i>	15
<i>The close fitting bodice block</i>	16
<i>The easy fitting bodice block</i>	18
<i>The tailored jacket blocks</i> <i>(close and easy fitting)</i>	20
<i>The classic coat blocks</i> <i>(close and easy fitting)</i>	22
<i>The one-piece sleeve block</i>	24
<i>The two-piece sleeve block</i>	26
<i>The sleeveless blocks</i>	28
<i>Shaping the waist</i>	29
<i>The dress blocks</i>	30

## Industrial sizing systems

Measurement surveys collect measurement data to produce sizing systems, they are very costly. To obtain reliable data, thousands of subjects have to be measured and it is very difficult to obtain public money for the task. The last survey that was entirely funded by the government and made publicly available, was in 1957. Recent surveys have been private ones done by individual companies or have been joint enterprises between the government and large retailers. As the companies have borne all, or a proportion, of the costs they see the information as commercially valuable and therefore it is withheld from public use. This has happened to the data from the latest British survey which took place under the direction of the Department of Computer Science, University College, London. The survey was carried out using computer scanning equipment. A number of systems are now available to companies. Although some problems remain, the scanners can now make reliable recordings of most of the principal body measurements required for clothing. They can also create 3D images of the body which give useful information about the changing shape of the population. The biggest problem remains the cost; in the present financial climate few companies are willing to invest in such innovative technology and they are nearly all in operation in government sponsored projects. A large number of surveys, particularly those in developing countries, are undertaken using manual techniques. A researcher from Manchester Metro University has developed a system of manual measurement using an anthropometric stand and a special harness.

### *British and European standards*

The British Standards Institution (BSI) has usually been a main guide to sizing, measurements and labeling. Four new standards under the heading *Size Designation of Clothes* have been adopted from CEN, the European Committee for Standardization. Most European countries, including the UK, have signed to adopt the standards agreed. The standards offered by BSI at present are:

BS EN 13402-1: 2001 *Terms, definitions and body measurement procedures.*

BS EN 13402-2: 2002 *Primary and secondary dimensions (used for garments labeling).*

BS EN 13402-3: 2004 *Measurements and intervals.*

The standard offers sizing in 4 cm and 6 cm intervals. It was expected that a further standard, BS EN 13402-4, a new coding system for garments,

would be published during 2006. However, the different countries could not reach an agreement on the coding methods offered. The standard is therefore delayed whilst new proposals are considered.

The use of the standards by manufacturers is voluntary and explains the anarchic systems of sizing that are found in High-street garment retailers. Despite the work taking place to obtain more consistent sizing both in the UK and Europe, the garments on sale in large and small retail outlets appear to be giving less and less information. Pictograms with body measurements have virtually disappeared. Few size charts that relate size codes to body measurements are available in the stores and many of the labels on garments only display a size code. The large retailers argue that this practice is a response to customers' demands for simple labeling and that most women recognise their size code. In practice many women appear to select across two or three size codes depending on the store or the style.

### *Size charts of body measurements and coding*

The retail clothing sector that sells High-street fashion to the young market uses size charts that fit a youthful or athletic figure. Their ranges are very attractive to young teenagers and therefore many companies in this market have extended the lower end of their size range and reduced the upper end of the range. Two size charts for this market are included in the book.

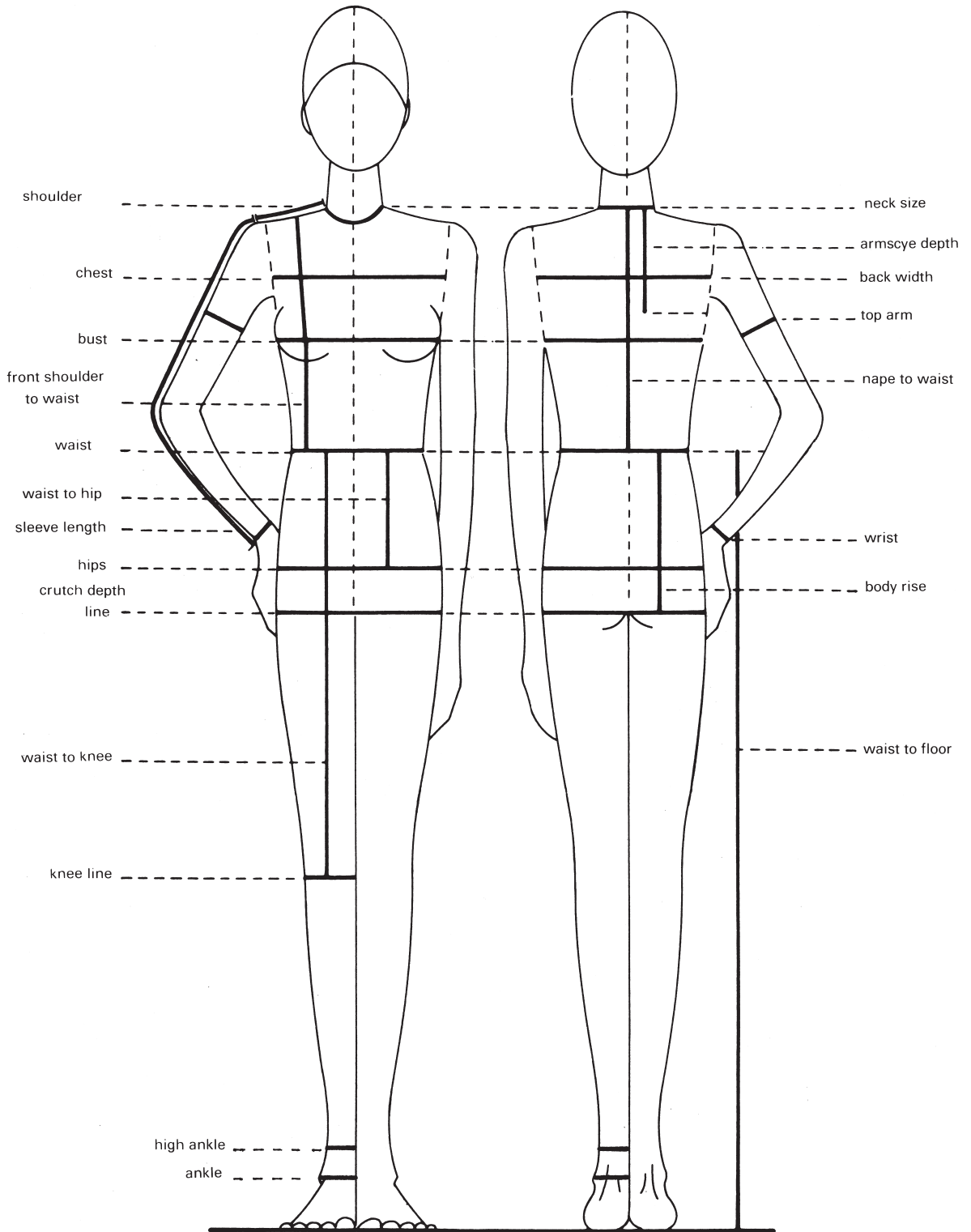
Size charts of body measurements for the mass-market now appear to offer more generous measurements within the coding system and some companies are extending the ranges of larger sizes.

Mail order catalogues offer customers body size charts with the related code numbers 10, 12, 14, etc, but it is apparent that the measurements vary with reference to their niche markets.

### *Size charts of body measurements in this book*

- (1) Body measurements – for young high fashion retail outlets, sizes 6–16, page 12.
- (2) Body measurements – for young high fashion retail outlets, sizes XS, S, M, L, XL, page 12.
- (3) Body measurements – for women's standard sizes, 4 cm and 6 cm increments, sizes 8–22, page 13.
- (4) Body measurements – for women's standard sizes, XS, S, M, L, XL, page 14.

Standard body measurements



### Body measurement chart for High-street fashion garments

(This size chart is useful for students creating high fashion wear to fit model figures.)

The retail sector that sells high fashion to the young market uses size charts that fit a youthful or athletic figure. Their ranges appeal to young teenagers and therefore many companies in this market have extended the lower end of their size range and reduced the upper end of the range. This size chart reflects these marketing pressures. The even size increments between the sizes have been constructed for simple grades.

**Note** For garments sizes (e.g. cuff sizes and trouser bottom widths) see the size chart on page 13.

Young women of medium height, 160–172 cm (5ft 3in–5ft 7½in)						
Size code	6	8	10	12	14	16
bust	76	80	84	88	92	96
waist	56	60	64	68	72	76
low waist (6 cm below waist)	68	72	76	80	84	88
hips	82	86	90	94	98	102
back width	31.4	32.4	33.4	34.4	35.4	36.4
chest	28.8	30	31.2	32.4	33.6	34.8
shoulder	11.5	11.75	12	12.25	12.5	12.75
neck size	34	35	36	37	38	39
dart	5.2	5.8	6.4	7	7.6	8.2
top arm	25.5	26.5	27.5	28.5	29.5	30.5
wrist	14.5	15	15.5	16	16.5	17
ankle	22.5	23	23.5	24	24.5	25
high ankle	19.5	20	20.5	21	21.5	22
nape to waist	39.8	40.2	40.6	41	41.4	41.8
front shoulder to waist	39.8	40.2	40.6	41	41.4	41.8
armscye depth	19.8	20.2	20.6	21	21.4	21.8
waist to knee	57	57.5	58	58.5	59	59.5
waist to hip	19.7	20	20.3	20.6	20.9	21.2
waist to floor	101	102	103	104	105	106
body rise	25.9	26.6	27.3	28	28.7	29.4
sleeve length	57	57.5	58	58.5	59	59.5
sleeve length (jersey)	53	53.5	54	54.5	55	55.5

### Body measurement chart for High-street fashion garments: XS, S, M, L, XL

Size symbol	XS 6	S 8–10	M 12	L 14–16	XL 18	
bust	76	82	88	94	100	XS = extra small
waist	56	62	68	74	80	S = small
low waist	68	74	80	86	92	M = medium
hips	82	88	94	100	106	L = large
back width	31.4	32.9	34.4	35.9	37.4	XL = extra large
chest	28.8	30.6	32.4	34.2	36	
shoulder	11.4	11.8	12.2	12.6	13	
neck size	34	35.5	37	38.5	40	
dart	5	6	7	8	9	
top arm	25.5	27	28.5	30	31.5	
wrist	14.6	15.3	16	16.7	17.4	
ankle	22.6	23.3	24	24.7	25.4	
high ankle	19.6	20.3	21	21.7	22.4	
nape to waist	39.8	40.4	41	41.6	42.2	
front shoulder to waist	39.8	40.4	41	41.6	42.2	
armscye depth	19.8	20.4	21	21.6	22.2	
waist to knee	57.1	57.8	58.5	59.2	59.9	
waist to hip	19.8	20.2	20.6	21	21.4	
waist to floor	101	102.5	104	105.5	107	
body rise	26	27	28	29	30	
sleeve length	57.1	57.8	58.5	59.2	59.9	
sleeve length (jersey)	53.1	53.8	54.5	55.2	56.9	

### Standard body measurements – women’s sizing, 4cm and 6cm increments

This chart, constructed for women’s standard sizing, differs from the size chart on page 12; it reflects a mature figure with increased measurements for the waist, hips and also front shoulder to waist measure in the larger sizes. It is based on 4cm and 6cm bust increments between the size codes and is compliant with the body measurement size chart given in the standard BS EN 13402-3. Despite variations in body sizes, the general trend is for body size to increase with height. See the special table below for short or tall women.

Women of medium height, 160–172 cm (5 ft 3 in–5 ft 7½ in)											
Size code	6	8	10	12	14	16	18	20	22	24	26
bust	76	80	84	88	92	96	100	104	110	116	122
waist	60	64	68	72	76	80	84	88	94	100	106
low waist	70	74	78	82	86	90	94	98	104	110	116
hips	84	88	92	96	100	104	108	112	117	122	127
back width	31.4	32.4	33.4	34.4	35.4	36.4	37.4	38.4	39.8	41.2	42.6
chest	28.8	30	31.2	32.4	33.6	34.8	36	37.2	39	40.8	42.6
shoulder	11.5	11.75	12	12.25	12.5	12.75	13	13.25	13.6	13.9	14.2
neck size	34	35	36	37	38	39	40	41	42.4	43.8	45.2
dart	5.2	5.8	6.4	7	7.6	8.2	8.8	9.4	10	10.6	11.2
top arm	24.8	26	27.2	28.4	29.6	30.8	32	33.2	35.2	37.2	39.2
wrist	14.5	15	15.5	16	16.5	17	17.5	18	18.7	19.4	20.1
ankle	22.5	23	23.5	24	24.5	25	25.5	26	26.7	27.4	28.1
high ankle	19.5	20	20.5	21	21.5	22	22.5	23	23.7	24.4	25.1
nape to waist	39.8	40.2	40.6	41	41.4	41.8	42.2	42.6	43	43.4	43.8
front shoulder to waist	39.8	40.2	40.6	41	41.4	42.3	43.2	44.1	45	45.9	46.8
armscye depth	19.8	20.2	20.6	21	21.4	21.8	22.2	22.6	23.2	23.8	24.4
waist to knee	57	57.5	58	58.5	59	59.5	60	60.5	61	61.5	62
waist to hip	19.7	20	20.3	20.6	20.9	21.2	21.5	21.8	22.1	22.4	22.7
waist to floor	101	102	103	104	105	106	107	108	109	110	111
body rise	25.9	26.6	27.3	28	28.7	29.4	30.1	30.8	31.8	32.8	33.8
sleeve length	57	57.5	58	58.5	59	59.5	60	60.25	60.5	60.75	61
sleeve length (jersey)	53	53.5	54	54.5	55	55.5	56	56.25	56.5	56.75	57
Extra measurements (garments)											
cuff size shirts	20.5	21	21	21.5	21.5	22	22.5	23	23.5	24	24.5
cuff size, two-piece sleeve	13	13.25	13.5	13.75	14	14.25	14.5	14.75	15	15.25	15.5
trouser bottom width	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5
jeans bottom width	18	18.5	18.5	19	19	19.5	19.5	20	20	21	21

### Tall and short women

Size charts for tall or short women have each of the following vertical measurements adjusted as shown in the size chart.

	Short women (cm) (152–160 cm (5 ft–5 ft 3 in))	Tall women (cm) (172–180 cm (5 ft 7½ in–5 ft 10½ in))
nape to waist	–2	+2
scye depth	–0.8	+0.8
sleeve length	–2.5	+2.5
waist to knee	–3	+3
waist to floor	–5	+5
body rise	–1	+1

### Standard body measurements: XS, S, M, L, XL

This size chart reflects the larger average size of women today. The medium size is set at 12–14. This type of chart is used mainly for leisure wear and particularly for garments in mail order catalogues.

The size chart has 8cm grades between the codes, with a half grade at XS.

The **XXS** (extra-extra small) and **XXL** (extra-extra large) sizes are rarely used by the major retailers.

**Note 1** A large number of garments made in these sizes are made in jersey fabric, therefore the front shoulder to waist measure remains the same.

**Note 2** High-street stores aimed at the younger, fashionable market, generally use a size 12 as their medium size (see page 12).

XS = extra small  
S = small  
M = medium  
L = Large  
XL = extra large

Women of medium height 160–172cm (5ft 3in–5ft 7½in)					
Size symbol	XS	S	M	L	XL
<b>Bust (control meas. to fit)</b>	74–78	78–86	86–94	94–102	102–110
<b>Approx. UK size codes</b>	6–8 (half grade)	8–10	12–14	16–18	20–22
bust (meas. for drafting)	78	82	90	98	106
waist	62	66	74	82	90
low waist	72	76	84	92	100
hips	86	90	98	106	114
back width	32	33	35	37	39
chest	29.4	30.6	33	35.4	37.8
shoulder	11.7	11.9	12.4	12.9	13.4
neck size	34.5	35.5	37.5	39.5	41.5
dart	5.4	6	7.2	8.4	9.6
top arm	25.4	26.6	29	31.4	33.8
wrist	15	15.5	16.5	17.5	18.5
ankle	23	23.5	24.5	25.5	26.5
high ankle	20	20.5	21.5	22.5	23.5
nape to waist	40	40.4	41.2	42	42.8
front shoulder to waist	40	40.4	41.2	42	42.8
armscye depth	20	20.4	21.2	22	22.8
waist to knee	57.3	57.8	58.8	59.8	60.8
waist to hip	19.8	20.1	20.7	21.3	21.9
waist to floor	101.5	102.5	104.5	106.5	108.5
body rise	26.3	27	28.4	29.8	31.2
sleeve length	57.3	57.8	58.8	59.8	60.8
sleeve length (jersey)	53.3	53.8	54.8	55.8	56.8



## Constructing blocks

### *Block patterns*

A block pattern is a foundation pattern constructed to fit an average figure. The average measurements of women are obtained by clothing manufacturers from sizing surveys.

The designer uses a foundation pattern (block) as a basis for making the pattern for a design. They may introduce style lines, tucks, gathers, pleats or drapes but still the basic fit of the pattern will conform to the block used. The finished pattern is made up into a calico toile to check the proportions and shape. The design is then cut out in fabric and made up. This is termed a sample. The size of the sample will depend on the niche market of the company. Manufacturers of high fashion garments will use a smaller size than the companies that cater for the general market. If buyers accept the design and orders are received the pattern is then graded into the sizes required.

### **Block patterns – general information**

Instructions are given for a wide range of basic garments. The blocks include the basic amount of ease required for the function of the block; for example, a dress block requires less ease than a jacket block. Some blocks offer a further choice of ease; for example, the overgarment block can be drafted to be close fitting for a formal coat or to be an easier fitting coat. It is important that the correct block is chosen for the design; this not only saves time during adaptation but can affect the final shape. For example, the close fitting bodice block has a wide dart to produce shaping for the bust, this shaping is too acute for many easy fitting designs so the easy fitting block would provide a better base.

**Special note** The blocks should be drafted in full scale so that students understand block construction and become aware of body proportions.

### **Intermediate blocks**

Some manufacturers construct intermediate blocks; these are basic shapes that are in use continually, for example the kimono block, the 'A' line skirt block or a particular shape on which a range of designs has been based. The latter is often developed for a particular fashion shape; this type of 'fashion block' may only be used for one season. As manufacturers change to computer grading systems and to computer aided design, intermediate blocks will be used increasingly. Their data can be stored and

recalled for rapid adaptation and grading, thus improving efficiency.

### **Block patterns – individual figures**

The basic blocks can be drafted to fit individual figures by using personal measurements instead of the standard ones listed in the size chart. Methods of taking personal measurements and alterations for difficult figures are included in Chapter 13.

### **Seam allowances**

There is no seam allowance included in the blocks. These are added after the pattern is constructed. See the section on seam allowances on page 34.

### *Types of basic blocks available in the book*

#### **Blocks for form cutting**

- (1) The close fitting bodice block (page 16).
- (2) The easy fitting bodice block (page 18).
- (3) The tailored jacket blocks – close or easy fitting (page 20).
- (4) The classic coat blocks – close or easy fitting (page 22).
- (5) The one-piece sleeve block. The block can be constructed for all the above blocks (page 24).
- (6) The two-piece sleeve block. The block can be constructed for all the above blocks (page 26).
- (7) Block modification for sleeveless and waist shaping (pages 28 and 29).
- (8) The dress blocks – one-piece and two-piece (page 30).
- (9) The shaped kimono blocks (page 62).
- (10) The tailored skirt block (page 80).
- (11) The classic tailored trouser block (page 100).
- (12) The very close fitting trouser/jeans block (page 106).

#### **Blocks for flat cutting**

- (1) The easy fitting trouser block (page 132).
- (2) The simple trouser block (page 134).
- (3) The simple and very simple skirt blocks (page 134).
- (4) The basic shirt block (page 140).
- (5) The basic flat overgarment blocks (page 142).
- (6) The flat kimono block (page 142).
- (7) A range of blocks for basic and easy fitting casual and jersey wear (pages 150 and 156).
- (8) A range of knitwear blocks (pages 158–160).
- (9) A range of close fitting (body shape) blocks – for stretch fabrics (pages 164–170).

## The close fitting bodice block

This is a close fitting block. If easy fitting styles with less dart shaping are required use the easy fitting block on page 18.

### Measurements required to draft the block

Measurements from any of the size charts in this book (pages 12–14) or personal measurements (see page 178) can be applied to the block.

A size 12 from the size chart on page 12 (for fashion garments) is used for this illustrated example.

bust	88 cm	shoulder	12.25 cm
nape to waist	41 cm	back width	34.4 cm
waist to hip	20.6 cm	dart	7 cm
armscye depth	21 cm	chest	32.4 cm
neck size	37 cm		

Square down from 0; square halfway across the block.

0–1 1.5 cm.

1–2 armscye depth measurement plus 0.5 cm; square across.

2–3 half bust plus 5 cm [i.e. for 88 cm bust:  $(88 \div 2) + 5 = 49$ ]. Square up and down; mark this line the centre front line.

3–4 = 0–2

### When using body sizes from the standard body measurement chart (page 13) or personal measurements (page 178):

Add an extra 0.5 cm for each size up above size 14. Example for size 20: 3–4 = 0–2 plus 1.5 cm.

1–5 nape to waist measurement; square across to 6.

5–7 waist to hip measurement; square across to centre front line. Mark point 8 (this gives half hip measurement plus 2.5 cm ease).

### Back

0–9 one fifth neck size minus 0.2 cm; draw in back neck curve 1–9.

1–10 one fifth armscye depth measurement minus 0.7 cm; square halfway across the block.

9–11 shoulder length measurement plus 1 cm; draw back shoulder line to touch the line from 10.

12 centre of shoulder line.

12–13 draw a dotted line 5 cm long and sloping inwards 1 cm. Construct dart 1 cm wide with this line as centre (make both sides of dart the same length).

2–14 half back width measurement plus 0.5 cm ease; square up to 15.

14–16 half the measurement 14–15.

17 midway between 2 and 14; square down with a dotted line to point 18 on waistline, and point 19 on the hipline.

### Front

4–20 one fifth neck size minus 0.7 cm.

4–21 one fifth neck size minus 0.2 cm; draw in front neck curve 20–21.

3–22 half chest measurement plus half width of dart; square up.

3–23 half the measurement 3–22; square down with a dotted line to point 24 on waistline and 25 on hipline.

26 is the bust point 2.5 cm down from 23; draw a line joining 20–26.

20–27 dart width measurement; draw a line joining 26–27.

11–28 1.5 cm; square out approx. 10 cm to 29.

27–30 draw a line from 27, shoulder length measurement, to touch the line from 28–29.

22–31 one third the measurement 3–21.

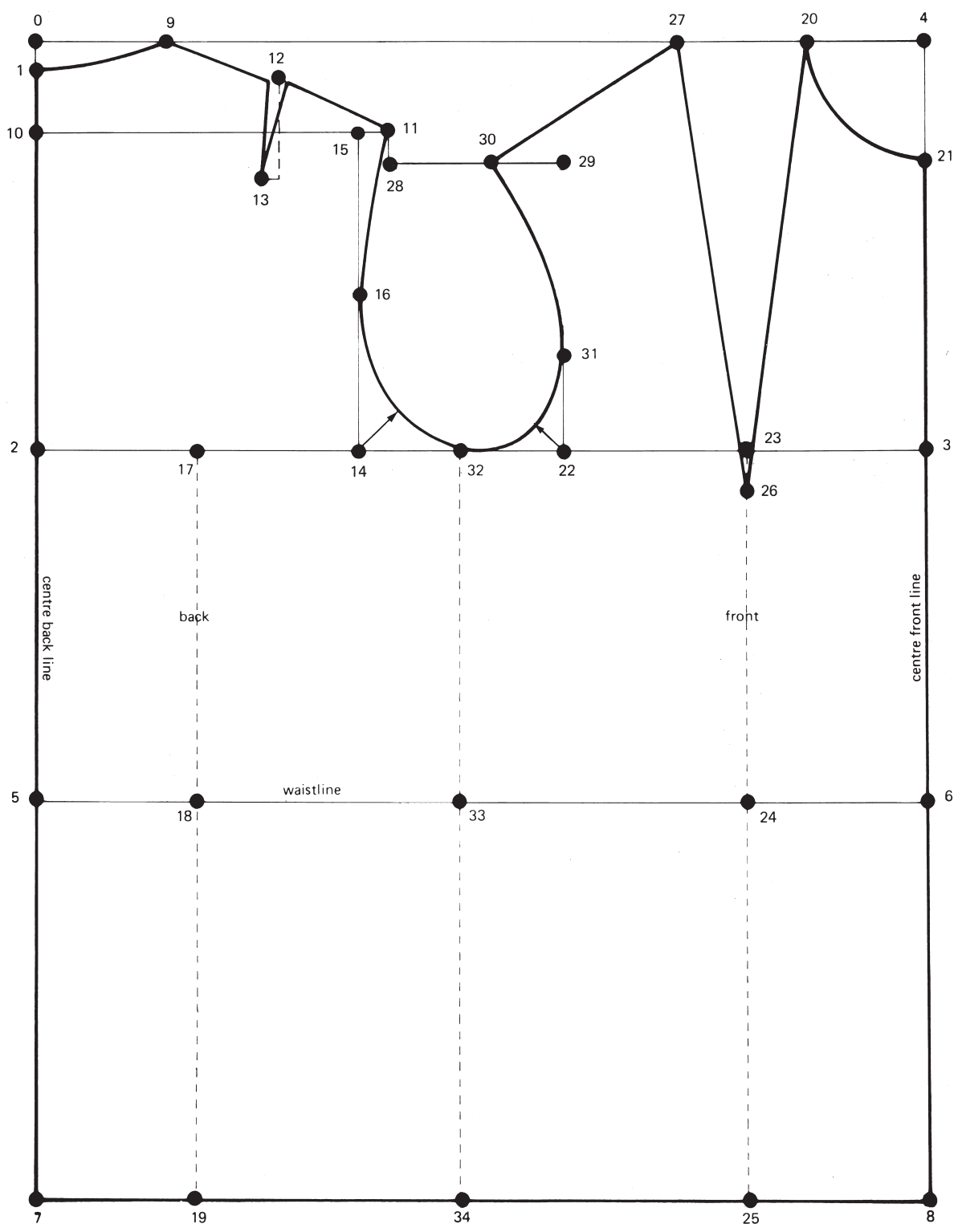
32 is midway between 14 and 22; square down with a dotted line to point 33 on the waistline and point 34 on the hipline.

Draw armscye as shown on diagram, touching points 11, 16, 32, 31, 30; measurement of the curves:

sizes 6–8	from 14	2.25 cm	from 22	1.75 cm
sizes 10–14	from 14	2.5 cm	from 22	2 cm
sizes 16–20	from 14	3 cm	from 22	2.5 cm
sizes 22–26	from 14	3.5 cm	from 22	3 cm

Draw round the outer edge of the shape from 1–21 to complete the block. When shoulder seams are joined it is essential that the neck and armscyes are smooth curves.

**Sleeve** Draft a one-piece sleeve (page 24) or a two-piece sleeve (page 26) to fit the armscye measurement.



## The easy fitting bodice block

For easy fitting dress styles and easy fitting raglan and kimono shapes.

### *Measurements required to draft the block*

Measurements from any of the size charts in this book (pages 12–14) or personal measurements (see page 178) can be applied to the block.

A size 12 from the size chart on page 12 (for fashion garments) is used for this illustrated example.

bust	88 cm	shoulder	12.25 cm
nape to waist	41 cm	back width	34.4 cm
waist to hip	20.6 cm	dart	7 cm
armscye depth	21 cm	chest	32.4 cm
neck size	37 cm		

Square down from 0; square halfway across the block.

**0–1** 1.5 cm.

**1–2** armscye depth measurement plus 2.5 cm; square across.

**2–3** half bust plus 7 cm [i.e. for 88 cm bust:  $(88 \div 2) + 7 = 51$ ]. Square up and down; mark this line the centre front line.

**3–4** = 0–2

**When using body sizes from the standard body measurement chart (page 13) or personal measurements (page 178):**

Add an extra 0.5 cm for each size up above size 14.

Example for size 20: **3–4** = 0–2 plus 1.5 cm.

**1–5** nape to waist measurement; square across to 6.

**5–7** waist to hip measurement; square across to 8.

### **Back**

**0–9** one fifth neck size minus 0.2 cm; draw in back neck curve 1–9.

**1–10** one fifth armscye depth measurement minus 1 cm; square halfway across the block.

**9–11** shoulder length measurement plus 1 cm (0.5 cm ease and 0.5 cm extra length). Draw back shoulder line to touch the line from 10.

**2–12** half back width measurement plus 1 cm ease; square up to 13.

**12–14** half the measurement 12–13.

### **Front**

**4–15** one fifth neck size minus 0.7 cm.

**4–16** one fifth neck size minus 0.2 cm; draw in front neck curve 15–16.

**15–17** half the standard dart measurement.

**3–18** half chest measurement plus 1 cm, plus half the measurement 15–17; square up.

**18–19** half the measurement 3–16 minus 2 cm.

**3–20** half the measurement 3–18; join 15–20 and 17–20 to form a dart.

**11–21** 1.5 cm; square out 15 cm to 22.

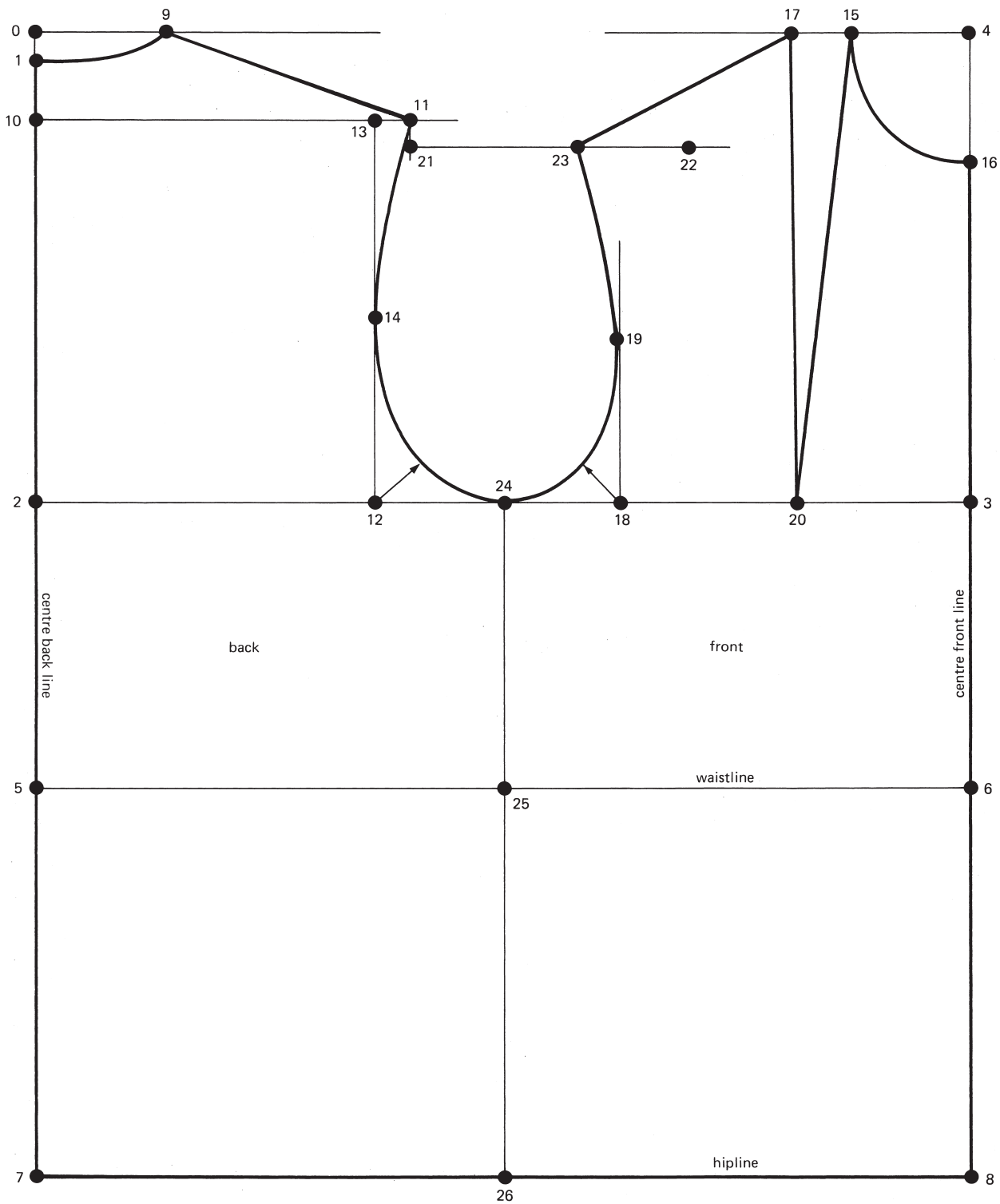
**17–23** draw a line from 17, shoulder length measurement plus 0.5 cm, to touch the line from 21–22.

**18–24** half the measurement 12–18; square down to point 25 on the waistline and 26 on the hipline.

Draw armscye as shown on diagram, touching points 11, 14, 24, 19, 23; measurement of the curves:

sizes 6–8	from 12	2.25 cm	from 18	2 cm
sizes 10–14	from 12	2.5 cm	from 18	2.25 cm
sizes 16–20	from 12	3 cm	from 18	2.75 cm
sizes 22–26	from 12	3.5 cm	from 18	3.25 cm

**Sleeve** Draft a one-piece sleeve (page 24) or a two-piece sleeve (page 26) to fit the armscye measurement.



## The tailored jacket blocks

For jackets with collars and revers. Close fitting and easy fitting shapes.

### Measurements required to draft the block

Measurements from any of the size charts in this book (pages 12–14) or personal measurements (see page 178) can be applied to the block.

A size 12 from the size chart on page 12 (for fashion garments) is used for this illustrated example.

bust	88 cm	shoulder	12.25 cm
nape to waist	41 cm	back width	34.4 cm
waist to hip	20.6 cm	dart	7 cm
armscye depth	21 cm	chest	32.4 cm
neck size	37 cm		

**Important note** The easy fitting block has a reduced dart for less bust shaping. Reduce the standard dart measurement by half. The instructions for the easy fitting block are shown in brackets.

Square down from 0; square halfway across the block.

- 0–1 1.75 cm.
- 1–2 neck to waist; square across.
- 1–3 finished length; square across.
- 2–4 waist to hip; square across.
- 1–5 armscye depth plus 3 cm (5 cm); square across.
- 1–6 half the measurement 1–5; square out.
- 1–7 quarter armscye depth measurement; square out.
- 5–8 half back width plus 1 cm (3 cm); square up to 9 and 10.
- 10–11 2 cm; square out.
- 0–12 one fifth neck size (plus 0.3 cm); draw neck curve.
- 12–13 shoulder length plus 1.5 cm (3 cm). These measurements include shoulder ease of 0.5 cm.
- 5–14 half bust plus 8 cm (12 cm); square up, square down to 15 and 16.

## Shaping the blocks

The design of the garment will determine the shaping of the block. Two examples are given:

### Standard shaping (fitted designs)

- 2–37 1.5 cm; draw a curved line from 30–37.
  - 37–38 1.5 cm. 3–39 0.5 cm (1 cm). Draw back seam line 6, 38, 39.
- Construct back and front darts as shown; back dart is midway between 5 and 8. (Extend back and front darts to hemline shaping in 2 cm at each hem point.) Shape back side seam: shape in back waistline 1.5 cm (2 cm); add 1.5 cm to hemline (0.5 cm). Shape front side seam: shape in front waistline 2 cm (2.5 cm); add 1 cm to hemline (0.5 cm).

14–17 = 0–2

**When using body sizes from the standard body measurement chart (page 13) or personal measurements (page 178):**

- Add an extra 0.5 cm for each size up above size 14.
  - Example for size 20: 14–17 = 0–2 plus 1.5 cm.
  - 17–18 one fifth neck size plus 1 cm (2 cm).
  - 17–19 one fifth neck size; draw in neck curve. Join point 18 to point 10.
  - 18–20 shoulder measurement plus dart allowance plus 0.5 cm (plus reduced dart allowance plus 2 cm).
  - 18–21 one third shoulder measurement.
  - 21–22 dart measurement (half dart measurement).
  - 14–23 half chest plus half the measurement 21–22 plus 1 cm (3.5 cm). Square up.
  - 23–24 one third the measurement 14–19.
  - 23–25 half the measurement 14–23; square down to 26 and 27 (square up 2 cm for bust point 25). Join 21–25 and 22–25; ensure that the dart lines are the same length. Re-mark point 22.
  - 20–28 2 cm; join 28–22 with a curve.
  - 23–29 half the measurement 8–23; square down to 30 and 31.
- Draw armscye as shown in diagram touching points 13, 9, 29, 24, 28; measurement of the curves:
- |             | from 8           | from 23           |
|-------------|------------------|-------------------|
| sizes 6–8   | 2 cm (2.75 cm)   | 1.5 cm (2.5 cm)   |
| sizes 10–14 | 2.25 cm (3 cm)   | 1.75 cm (2.75 cm) |
| sizes 16–20 | 2.75 cm (3.5 cm) | 2.25 cm (3.25 cm) |
| sizes 22–26 | 3.25 cm (4 cm)   | 2.75 cm (3.75 cm) |

**Sleeve** Draft a two-piece sleeve (page 26).

### Classic front edge shaping

- Add required button stand.
- Mark points 32 and 33 on waistline and hemline.
- 33–34 1 cm; join 31–34 with a curve.
- 32–35 one third the measurement 32–34.
- 34–36 one fifth the measurement 31–34; draw in front curve.

### Semi-fitted shaping ('men's style')

- 2–37 1.5 cm. 37–38 1 cm (1.5 cm). 3–39 0.5 cm (1.5 cm). Draw back seam line 6, 38, 39.
- 8–40 quarter armscye depth minus 1 cm; square across to 41 on armscye line; square down to 42.
- 8–43 1.5 cm (2 cm); square down to 44 and 45.
- 45–46 2.5 cm; draw in back seam line through points 41, 44, 46 (45) and 41, 42, 45 (46).
- 29–47 one third measurement 23–29; square down to 48 on waistline and 49 12 cm below waistline. Draw in a 1 cm (2 cm) dart on this line.
- 25–50 3 cm. 27–51 5 cm. Draw in 1 cm (2 cm) dart on this line (continue the 2 cm shaping to the hemline).