# Basic Patternmaking for Soft Construction Hats

by
Gilbert Muniz

# Getting Started

# Read through all instructions before you begin drafting the patterns described in this booklet.

(No drawing in this booklet is drawn to scale)

## Necessary supplies to draft patterns:

- ☐ Pattern paper – gridded with numerical/alphabetical markers every inch
- ☐ Mechanical pencil – .05 or.07 lead only
- ☐ Soft eraser – not kneaded
- ☐ Clear, flexible ruler – at least 18" long
- ☐ Tracing wheel – a stiletto pounce wheel
- ☐ Notcher – all metal or plastic handle
- ☐ Compass – metal or plastic, with a sharp, wooden pencil or mechanical pencil
- ☐ Protractor – inexpensive, clear plastic
- ☐ Headsize Templates – located in back of booklet
- ☐ Colored pencils – inexpensive, a couple of colors

# Millinery Terms

## Basic Supplies:

Buckram – a stiff open weave material that has a sizing infused into the fibers. Buckram comes in different weighs from the very light to heavy duty. For different effects or needs, you can double the thicknesses. Buckram reacts to steam and will shape over most forms. Once the buckram is dry, it resorts to its rigidity.

Sinamay – a natural fiber that has been infused with a stiffener that allows the material to react to steam. Sinamay comes in a multitude of colors and is ridiculously versatile.

Brim-lock – a polyester "wire" that is applied to the edge of a brim to hold its shape. Brim-lock can also be used for trim when a stayed, circular shape is required but is not as versatile as millinery wire.

Millinery Wire – a steel wire that is wrapped in a thin thread. The thread allows the sewing needle to easily connect it to various hat components. It comes in various sizes and weights. Use millinery wire whenever you need to stay a shape, outline buckram or suspend objects away from the hat

Trimming – anything placed on a hat for decoration

Petersham – a cotton/rayon blend, woven ribbon with a saw-tooth edge that is used for trimming or sweatbanding. This ribbon shapes with steam and is easily sewn into the edge of a brim. Do not confuse this with over the counter grosgrain ribbon.

French elastic – a 1" wide strip of a stiff, bias-cut cotton fabric that is used to cover the wired edge of buckram frames

Wire joiners – a hollow steel tube that is used to join the two ends of millinery wire together.

Comb – a small, tined fork that attaches to the inside of a hat that allows it to stay on the head when tangled through hair.

Elastic band – a strip of thin elastic that attaches to the inside of a hat that allows the hat to be braced against the head by pressure

Veiling – a thin, open weave fabric that is sewn to the front of a hat so the face can be slightly obscured. This application is typically found on more formal hats and wedding designs. Heavier applications are found on hats used for mourning.

## Parts of a Hat:

Tip – the top of a hat. The tip can be any shape or size. On a multi-sectional hat, the tip has been fused with the crown.

Crown – the side walls of a hat. The crown supports the tip. The base of the crown is where the head enters and the bulk of the hat touches the head. This is where you insert the sweatbanding. A brim or visor can extend from the base of the crown if the design calls for it.

Brim – a shape of fabric that extends from the base of the crown. The brim can be any shape - symmetrical or asymmetrical. The brim is typically interfaced or stayed to retain shape.

Visor – a partial brim that is primarily used to obscure the sun from the eyes. The visor can be any shape and size depending on the design.

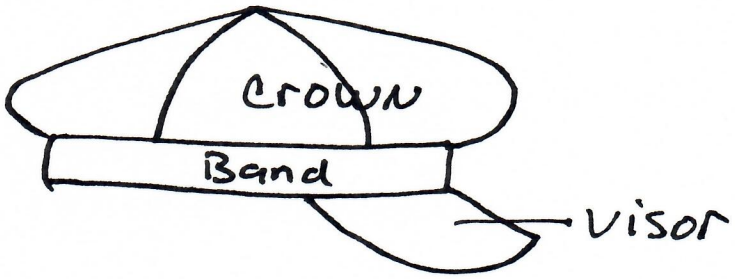
Sweatband – a strip of material that is used to absorb sweat during a hat's use. The sweatband is easily replaced sparing the hat from extensive repair and cleaning. Typical materials include petersham (most common), ultrasuede and bias-cut fabric.

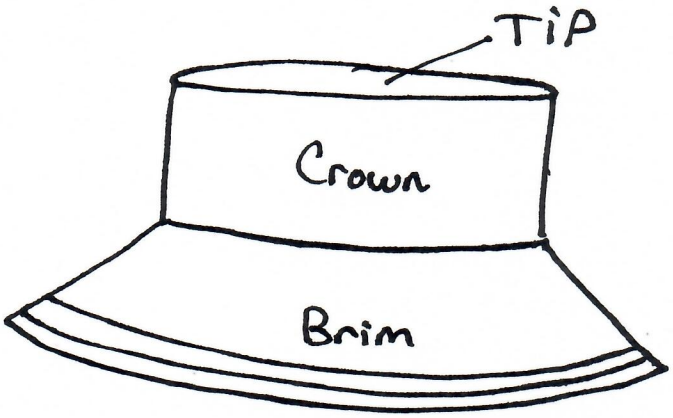
# Parts of a Hat

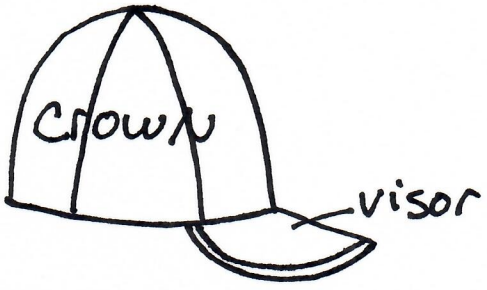
Hats consist of three basic parts: tip (the top of the hat) , crown (the sidewalls of the hat that extend from the headsize line) and brim/visor (any extension of fabric from the headsize line).

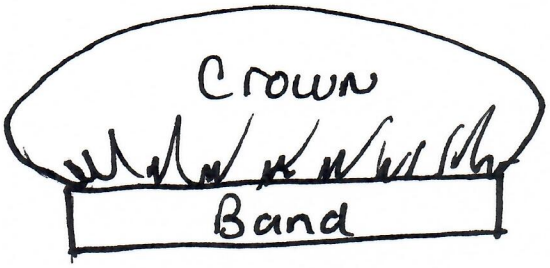
Some designs have a combined tip and crown; in this instance, the entire combination is called the crown.

Hats like berets and skull caps do not have brims/visors.



# Headsize Plates

Every hat in this series is drafted from a head size + ease measurement. Your head size is determined by measuring your head at the desired point from which you wish the brim to extend or the band to rest on your brow. This is usually around the top of the ear or just over the eyebrows.

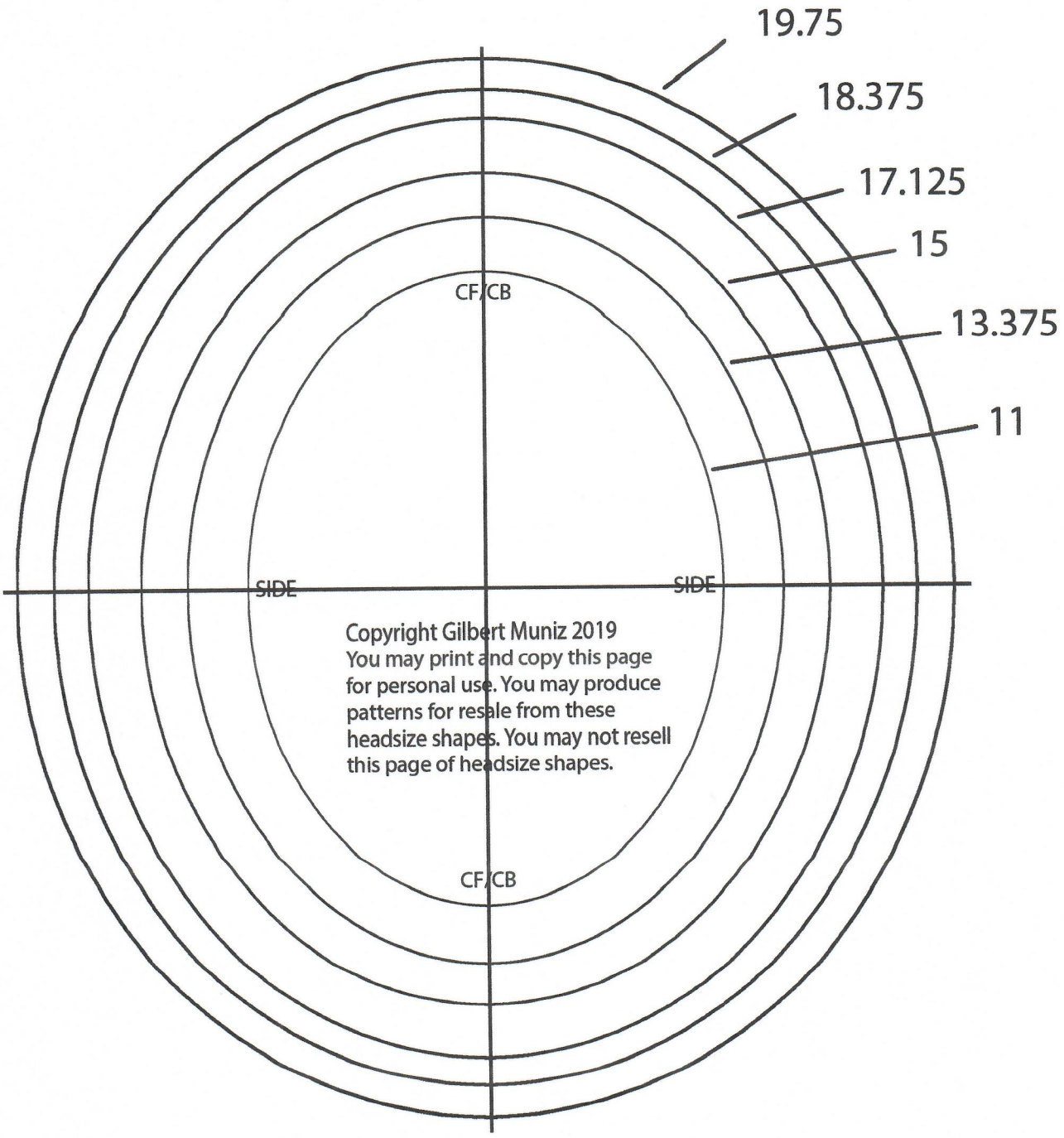
Ease is an added measurement which allows a hat to be comfortably worn on the head. Ease is completely subjective and determined by the following factors: head shape, fullness of hair, head size, thickness of fabric, and personal preference. If you like your hat to fit snuggly, use little to no ease. If you prefer a looser hat, use more ease. I prefer a snug fit, so I use very little ease (usually no more than ¼ inch) added to the head size measurement, but this can vary based on the hat style.

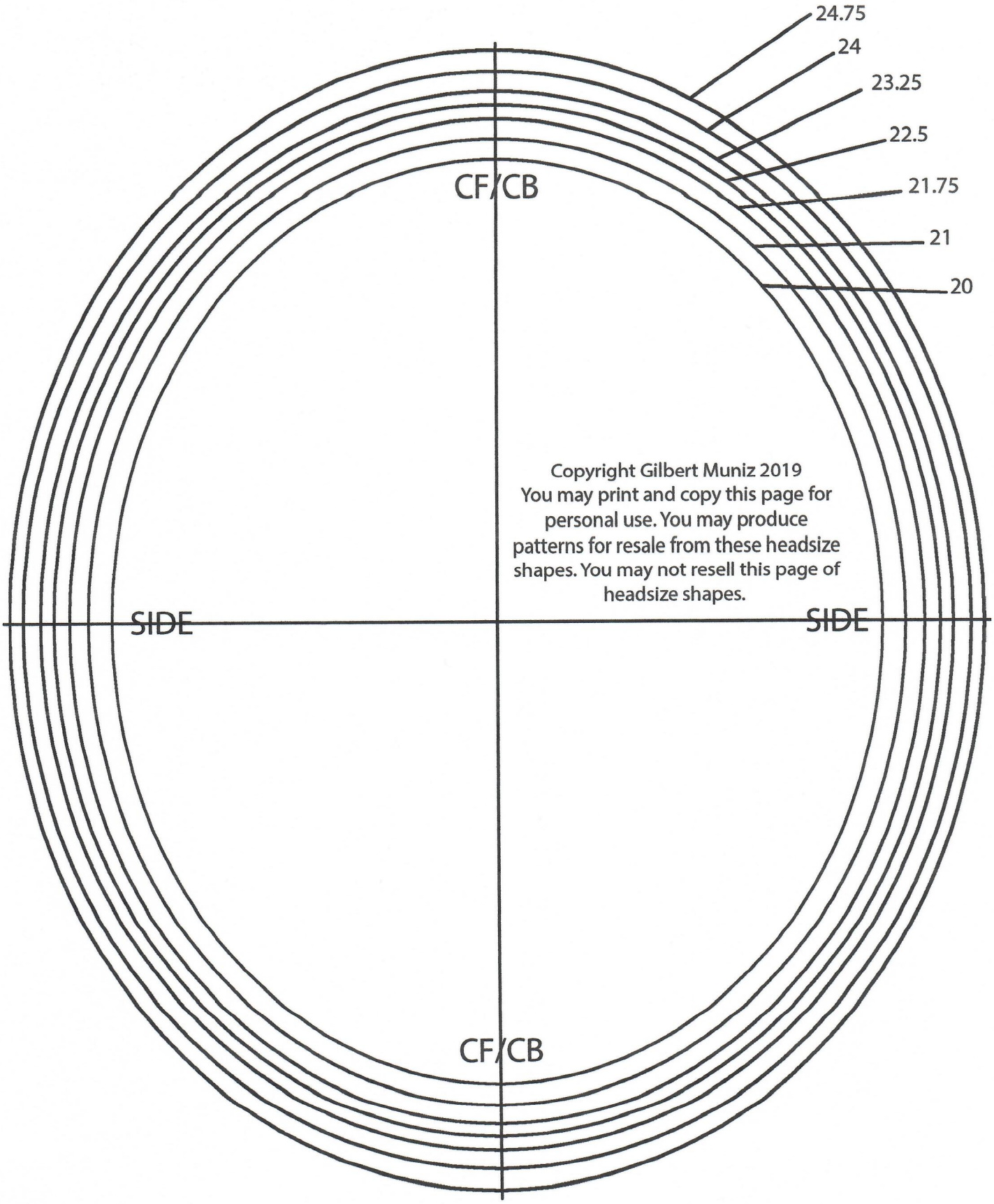
Another measurement you might need is a crown depth. This measurement determines how far down on the head a hat will sit. This measurement is a true measurement for sectional crowns.

For head size, find a comfortable place above your eyebrows/around the top of your ears and measure around with a measuring tape. The tape should not be pulled tight, just comfortable against the head. If you want to add ease, loosen the tape and determine how much you feel comfortable with.

For crown depth, find the approximate center of the top of your head and measure down to the point on the ear that you want the crown to stop. For an oversized crown, you can increase this measurement as much as you want.

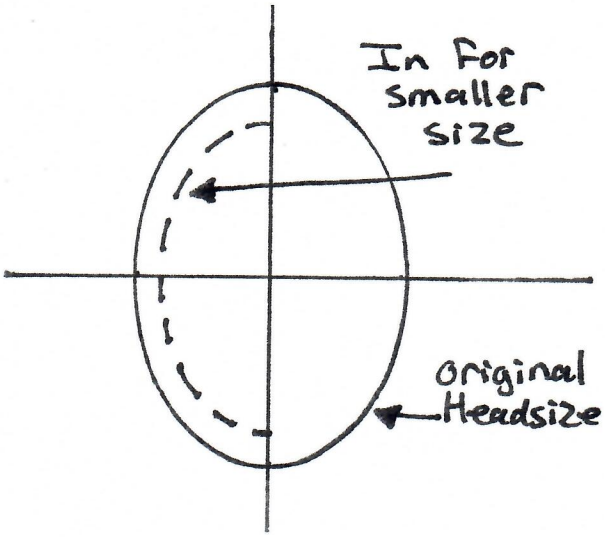
# Smaller Head Sizes

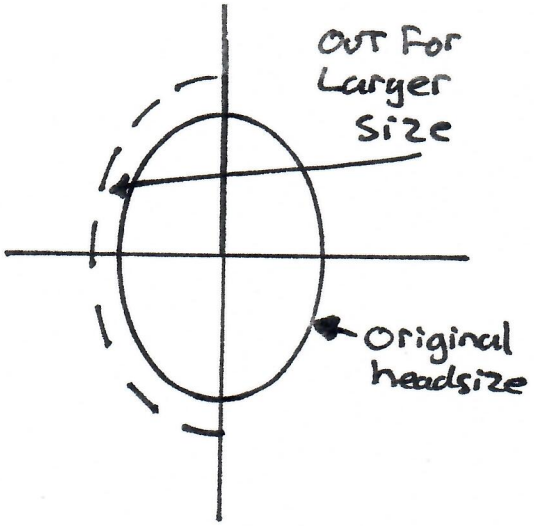




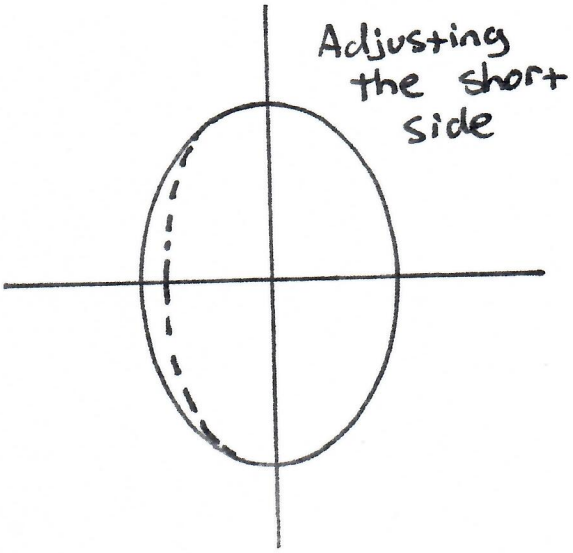
# Adjusting the Headsize Plate

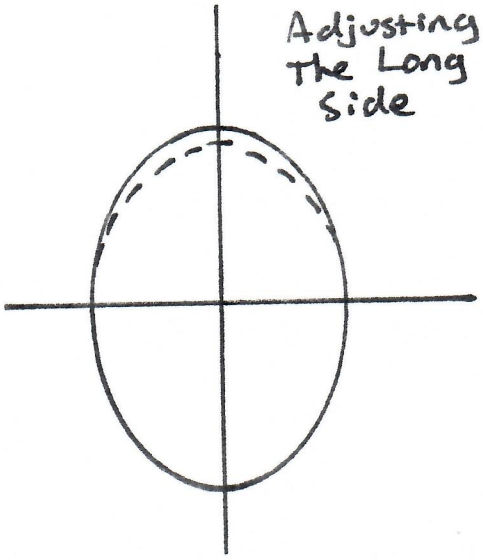
You might need a specific measurement for a head for which you do not have a plate. First, find a plate that comes closest to the size you need and trace on to pattern paper. On one side of the oval and following the shape of the oval, draw in for a smaller size or draw out for a larger size. (How much you go in or out is a bit of a hit or miss process. Start with a small measurement and go from there. You can get a rough estimate of how much you need to go in or out by using a bendable ruler to gauge the measurement.) Now, fold the paper along the CF/CB line and trace on the adjustment line to get a whole headsize plate.




Sometimes you can make slight adjustments on the short or long sides of the headsize plate to make incremental changes. To do this, come in on one side and blend the adjusted line back in to the original line.



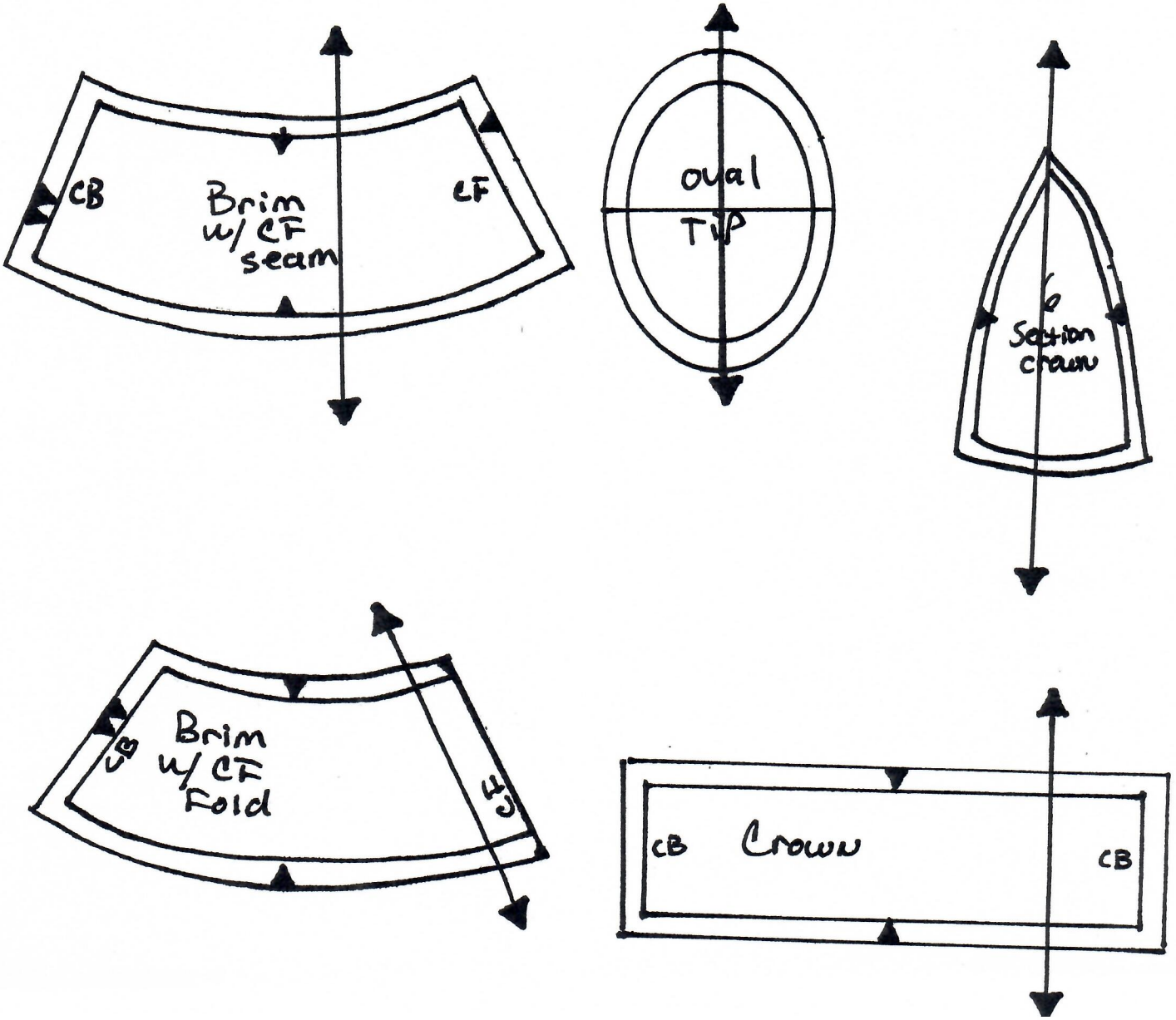



# Grain

Grain defines the direction you cut your pattern out on the fabric. In garment construction, grain is imperative; it ensures a proper fit and construction.

When making hats, I take a lax approach to grain because the surface area is relatively small and the fabric is often stabilized or interfaced. The only times I really focus on grain is when a plaid or stripe is in play or, when I have to really consider the texture of the fabric, like, velvet, corduroy or a specific weave. Often on a hat, you can fussy cut a print or design to achieve the desired look without compromising the integrity of the fabric's grain.

Below is a small compendium of possible grains for your consideration. You are not obligated to use any of them.

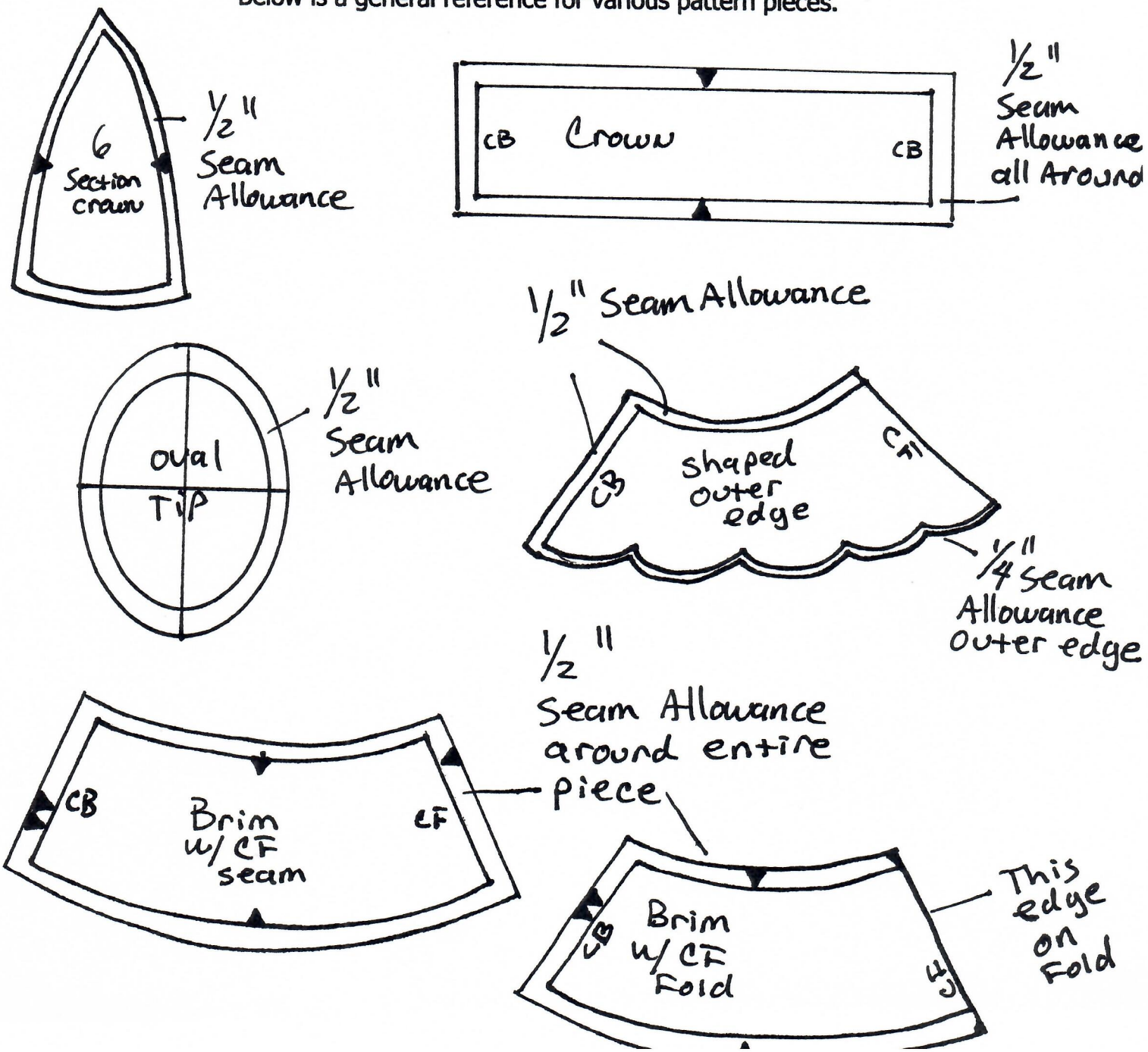


# Seam Allowance

Seam allowance is a specific measurement added to the outer edge of the pattern that allows for construction. In garment production, the least amount of seam allowance is used because of cost effectiveness.

When making a hat, seam allowance is purely subjective. You want the least amount of bulk because you have a very small amount of fabric to deal with. Often, one pattern will have multiple seam allowances to accommodate this.

Below is a general reference for various pattern pieces.



# Notches

Notches are marks on the pattern that indicate: Center Front, Center Back, Side, or two connecting seams. They can also indicate the placement of a trim or design detail.

When indicating the placement of a notch on the paper pattern, use a bold color of permanent marker. This will help you find them later so you can transfer the mark to the fabric with chalk or a scissor snip. Notches can be made simply by a notcher or just by clipping the paper pattern where needed.

**My Suggested Notches**

***Crown with Sloped Brim:***

Tip – CF, CB, both Sides

Crown (mark on both tip edge and headsize edge) – CF (if not cut with a seam), CB (if not cut with a seam), Side

Brim (mark on headsize edge) – CF (if not cut with a seam), CB (if not cut with a seam), both Sides

***6 Section Crown with Visor:***

Section Piece – center of the section on the headsize arc, about 2 to 3 inches up on both side edges (this helps with construction)

Visor – CF

***Beret crown:***

Flat Beret:

Tip - CF, CB, both Sides
Crown - CF, CB, both Sides
Band - CF (if not cut with a seam), CB (if not cut with a seam)
[If attaching a visor or brim, notch on both the headsize line and the brim/visor line]

Gathered Beret:

Crown - CF, CB, both Sides
Band - CF (if not cut with a seam), CB (if not cut with a seam)
[If attaching a visor or brim, notch on both the headsize line and the brim/visor line]

# Gilbert Muniz's top five tips for drafting patterns

#1: ALWAYS use a mechanical pencil - either .05 or .07 lead. This will ensure a consistent line. Dull-leaded, wooden pencils can add up to 1/8 of an inch to a pattern edge; multiply this by several pieces and you can unknowingly add several inches to your design.

#2: Pin up a fraction conversion cheat sheet in your workspace. Manually calculate the decimal equivalent of fractions from 1/32 to 1 inch and print them out on a bright piece of colored paper. Put it in an easily seen place in front of your work table. This way, you will always have a quick reference that will make your pattern drafting much faster.

#3: Buy a thin, flexible, see-through ruler. Heavy quilting rulers are good to cut against with a rotary cutter, but are typically too thick for drafting patterns – they tend to distort the view angle. Instead, get a ruler you can bend that will relax back to a straight edge. By it being flexible, you can easily measure curves without having to use a tape measure

#4: Don't use the surface that you rotary-cut on to draft patterns. Even the best rotary cutting mats tend to get pockmarks and divots from super sharp blades; these bumps can be annoying when you are trying to draw a smooth line. Flip the board over, get one that is used exclusively for drafting or buy a mat leveler that smoothes out the surface before you start to draft.

#5: Whether it's a garment or an accessory, always test your patterns by constructing a muslin sample. The sewing doesn't have to be perfect and not all the superfluous details need to be included, but you must test the shape and fit before you continue. And at this point, it is going to be easier to correct the pattern. Remember, it is better to ruin and mark-up the cheap fabric than the expensive one.

**Some Key Patternmaking Terms:**

"On the Half" – This is how symmetrical patterns are drafted- only half is drafted from a starting point (like CF or CB) and the cut result is a mirrored effect, like butterfly wings

"On the Whole" – Asymmetrical patterns and small shapes are drafted this way – the entire shape is revealed

Working Pattern – A basic pattern that has no seam allowance; all manipulation is done on this pattern then seam allowance is added afterwards.

Pattern Paper/ Marking Paper – A gridded paper that is relatively translucent. Use this paper only as a grid, not a measurement.

Oak-Tag/ Tag board – A thick manila paper used to create more permanent patterns and templates.

Grading – adjusting the style lines up or down on a finished pattern to achieve a range of sizes

Seam – Two or more pieces of fabric that are joined together in construction

Seam Allowance – an allotment of fabric to the outside of a seam that allows for construction of the final pattern. Seam allowance is added to the pattern after all manipulation has been completed on the working pattern.

Jog – a discrepancy in length between two seams that connect

"Split the Difference" – taking the measurements of the two seams that make a jog and finding a median – basically, shortening the longest and lengthening the shortest.

Center Back (CB) – Indicates the starting/stopping point of the back of the draft

Center Front (CF) - Indicates the starting/stopping point of the front of the draft

Notch – a mark on the pattern that indicates a sewing junction for construction

Hash Mark – the universal patternmaking symbol for "not suppose to be here" represented by two slash marks ( // )

Drill Hole – a mark on the pattern that indicates a construction point or necessary design element

Warp – the lengthwise grain of fabric, 90˚ to the weft

Weft – the crosswise grain of fabric, 90˚ to the warp

Bias – a 45˚ angle to the warp and the weft

## Some Recommended Books for General Patternmaking

There are a ton of patternmaking books out there. The best way to learn is to work though the problems and build your skills one at a time. There is never just one way to draft a pattern. The following books are good for reference, but don't let them dictate how you should draft a pattern.

ISBN-10: 0136069347 Patternmaking for Fashion Design (5th Edition) by Joseph-Armstrong, Helen

This is a good go-to book for drafting clothing patterns. I really prefer the 3rd edition of this book, but it's difficult to find. Try looking in used book stores.

ISBN: 978-1-56367-550-8 Draping for Apparel Design by Joseph-Armstrong, Helen

I like this book. It has good illustrations and exact instructions.

## For Hats

ISBN: 0-941082-00-8 From the Neck Up by Dreher, Denise

This book is a must have for anyone serious about millinery. It has wonderful instructions and clear illustrations.

ISBN: 0-9617414-0-6 Hats: Design and Construction by Remiasz, Stella

This is a good book for beginners. There is a great section on swatches for supplies.

ISBN: 1-57990-016X Classic Millinery Techniques by Albrizio, Ann

This is a great book; unfortunately, it is no longer in print and can go, on-line, for over one hundred dollars. I found a copy in a used book store for eight dollars. If you find this book you will love it. There are great examples and clear instructions and illustrations.

ISBN-10: 0307337944 Saturday Night Hat: Quick, Easy Hatmaking for the Downtown Girl

This is a quirky little book. It has a lot of fun ideas, but the construction tips are not particularly professional. The introduction states that these are "get ready for tonight" hats; still, it is a fun reference to have on hand.

## For Online Patternmaking Supplies

www.pgmdressform.com I have purchased from this site in the past; however, there are tons of sites on the internet for purchasing patternmaking supplies.

## Local Patternmaking Supplies

Southwest Sewing Machines: 8702 Pagewood Lane Houston, TX 77063 (713) 977-6567

I have been buying from southwest sewing for over 10 years. They stock all the supplies you need and tons of sewing machines – new and used.

## Some On-Line Millinery Resources:

***Judith M*** - http://www.judithm.com – I have ordered from this company from the beginning. They are nice and rather efficient. They stock everything you will need to begin hatmaking.

***Torb and Reiner*** - http://www.torbandreiner.com - A wonderful resource for sinamay and various supplies. Don't let the Australian address fool you, I have ordered from them before and the shipping was not that bad.

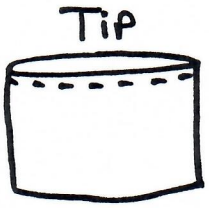
# Fraction Conversions

| | |
|---|---|
| 1/32 - .03125 | 1/16 - .0625 |
| 1/8 - .125 | 3/16 - .1875 |
| 1/4 - .25 | 5/16 - .3125 |
| 3/8 - .375 | 7/16 - .4375 |
| 1/2 - .5 | 9/16 - .5625 |
| 5/8 - .625 | 11/16 - .6875 |
| 3/4 - .75 | 13/16 - .8125 |
| 7/8 - .875 | 15/16 - .9375 |

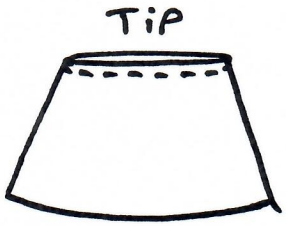
# Drafting Basic Crowns

There are several categories of crowns. The ones covered in this booklet are:

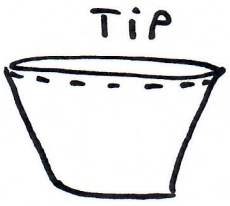
Straight Side



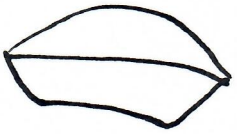

Truncated



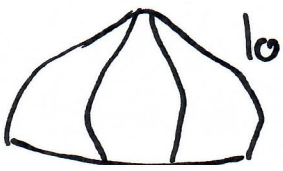

Inverted

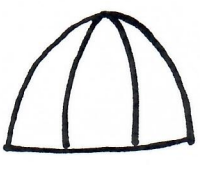



Beret


Sectional



# Straight Side Crowns

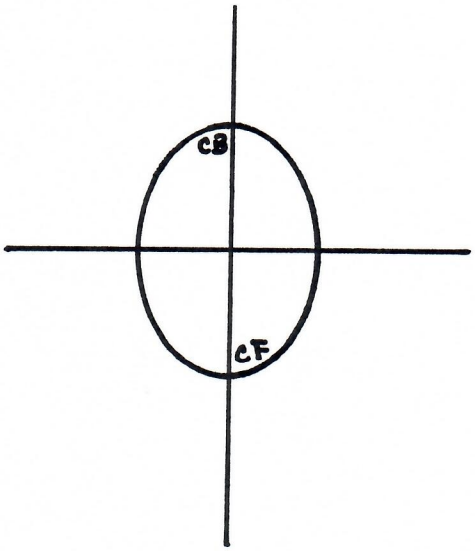
**Straight Side Crown:**

1 - Determine your head size using a tape measure. Add desired amount of ease and use this number for the draft. Ease is totally up to you. I use ¾" because it is the way I like my hats to fit. For a tighter fit, use less ease. For a looser fit, add more ease. For example: My head size is 22 ½" + ¾" ease = 23 ¼".
23 ¼" is the measurement I will be using throughout the example.

2 - Find the appropriate headsize plate.

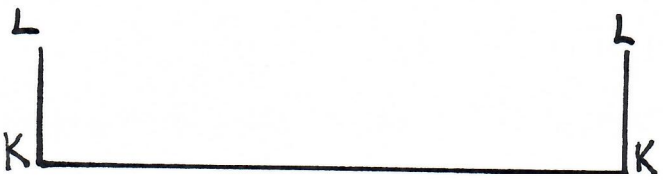
3 –Draw an X/Y axis slightly larger than your headsize plate.

4 – Center the headsize plate on the X/Y axis matching notches and trace around. Label as the picture indicates.




5 – On a separate piece of paper, draw a line the length of the head size you are using. Label each end "K".


6 – Determine the desired width of your crown. In soft construction hats, you can get away with a measurement that is approximately 5" to 6" tall without having to use heavy buckram as a stabilizer. Square a line up, from each "K" of the head size line, the desired width and label them "L".

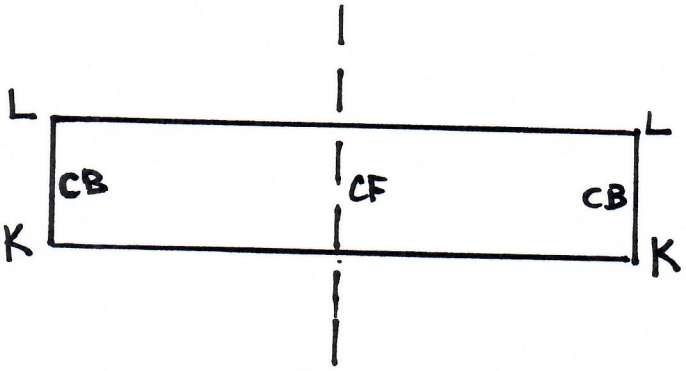


7 – Connect "L" to "L" with a straight line.

8 – Find the center of the rectangle you just drafted by folding it in half. Pencil in the fold line and label it CF. Label the two ends CB.

9 – Add seam allowance to both pieces and test in muslin.

10 – Draft brim or visor as desired.



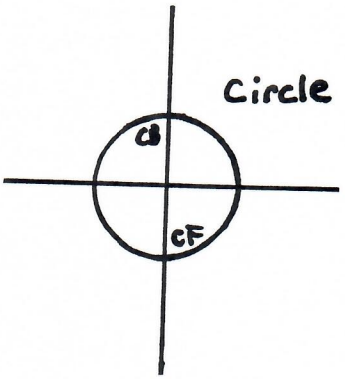
# Truncated Crowns

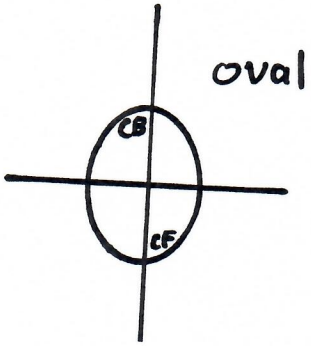
**Truncated Crown:**

Truncated crowns are crowns that get narrow the taller they go... like a pyramid. In hat terms, the best example is a fez.

1 -Determine your head size using a tape measure. Add desired amount of ease and use this number for the draft. Ease is totally up to you. I use ¾" because it is the way I like my hats to fit. For a tighter fit, use less ease. For a looser fit, add more ease. For example: My head size is 22 ½" + ¾" ease = 23 ¼".
23 ¼" is the measurement I will be using throughout the example.

2 – Determine your tip shape. This can be anything, but a circle or oval is most common and easier to draft and sew. For a truncated crown, this shape has to be considerably smaller than the "head size + ease". To get a circle: Draw an X/Y axis and use your compass. To get an oval: Draw an X/Y axis and use a headsize plate that is significantly smaller than your own head size. Draw this shape on a piece of paper and label like the picture.

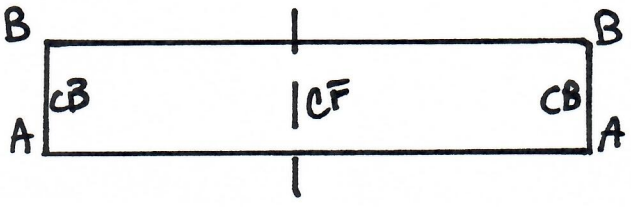



3 – On a separate piece of paper, draw a line the length of the headsize + ease that you are using. Label each end "A".

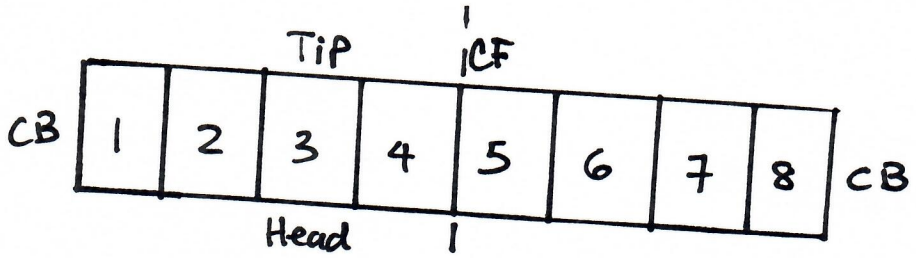
4 – Determine the desired width of your crown. In soft construction hats, you can get away with a measurement that is approximately 5" to 6" tall without having to use heavy buckram as a stabilizer. Square a line up, from each "A" of the head size line, the desired width and label the ends "B".

5 – Connect "B" to "B" with a straight line. Label the two rectangle ends CB.



6 – Measure the circumference/perimeter of your tip shape and write it on the pattern piece.

7 – Neatly cut out the crown draft and fold it into eights lengthwise. Pencil-in all of the fold lines. Label as indicated.




8 – Math Time! Subtract the tip circumference measurement from the headsize measurement to determine the amount we will need to eliminate. For example:

| | | | |
|---|---|---|---|
| Headsize measurement | = | 23 ¼" | (23.25) |
| Tip Circumference | = | 18 | (18) |
| Subtracted total | = | 5 ¼" | (5.25) |

5 ¼" is what we have to eliminate from the tip edge of the crown draft so that our tip pattern will fit onto it. We will have to distribute this measurement evenly so the pattern will hold its shape on the head. To do this, we divide the measurement by 8 because we folded our crown draft into 8 sections. Eight is generally accepted as a nice even number that helps form a smooth arc. So, for the example:

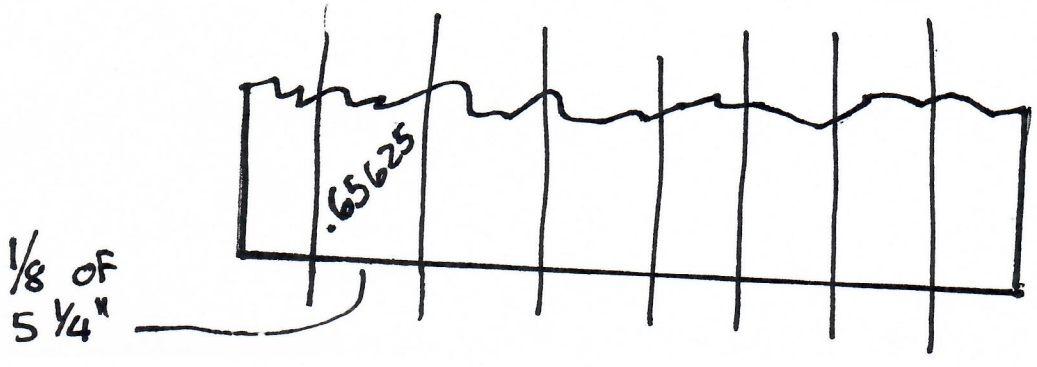
5 ¼" (5.25) divided by 8 = .65625

We'll call this number the "8th measurement". That means that we have to eliminate .65625 from each section to get the pattern pieces to work. Sometimes the result is a simple fraction; sometimes the result is the scary number you see before you.

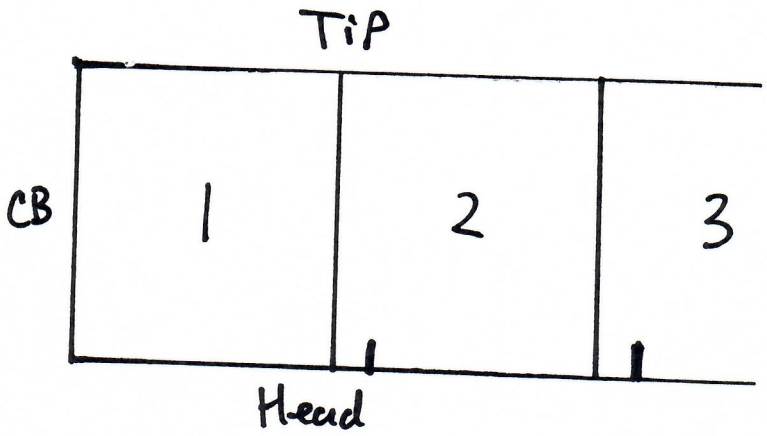
## TIP INTERVENTION

*If the thought of figuring out the fraction equivalent of a decimal number scares you, try this:*

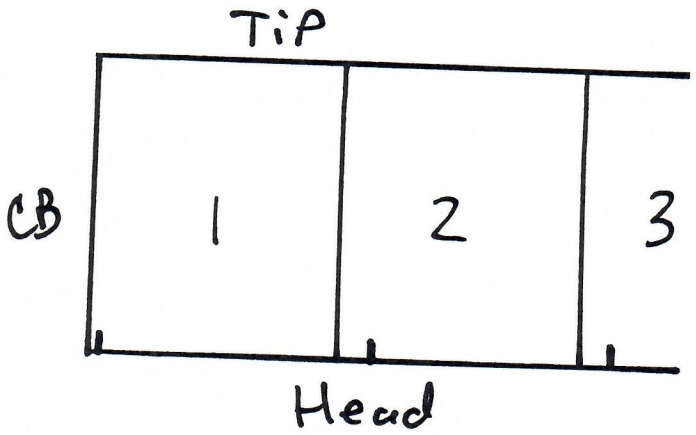
*Take the number you have to divide, in this case 5 ¼", and measure it out onto a small scrap of paper with a straight edge. Fold that piece of paper into eights – really crease the paper that way the lines are obvious. Unfold the paper and pencil in the first fold line. Separate the section on that line. That little scrap of paper is the exact measurement will you need and you can use it as you "ruler" from this point on. Don't forget to label it with the measurement.*



9 – Ignoring the CB edges for right now, on your crown draft, at the tip edge, use the paper "ruler" or the real ruler and mark the "8th measurement" next to each fold line with a small pencil mark. Try to make the mark consistently to the left or right of each fold line. Sometimes it helps to use a colored pencil to make the mark so you don't get confused later.

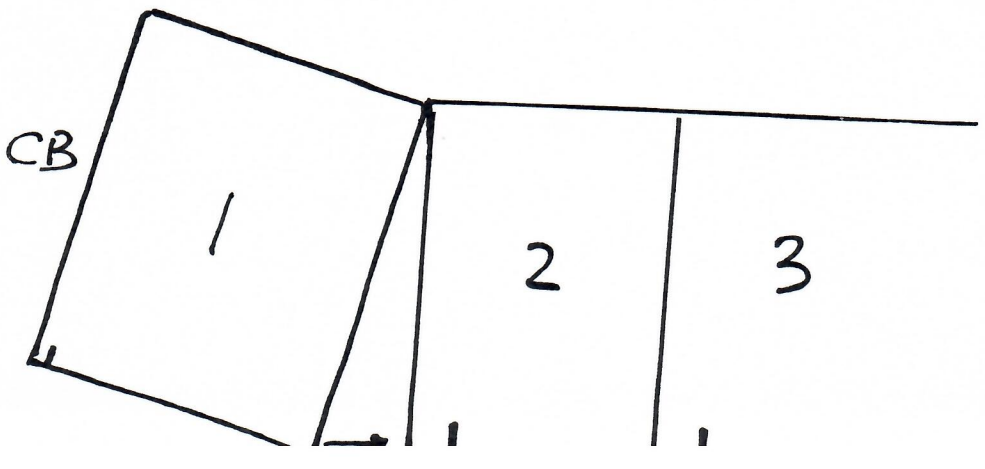



10 – On each of the CB edges we are only going to mark ½ of the "8th measurement" because the CB edges come together on the finished product and are essentially one seam. Find the measurement on the ruler or fold the paper ruler in half and mark this measurement on the tip edge.

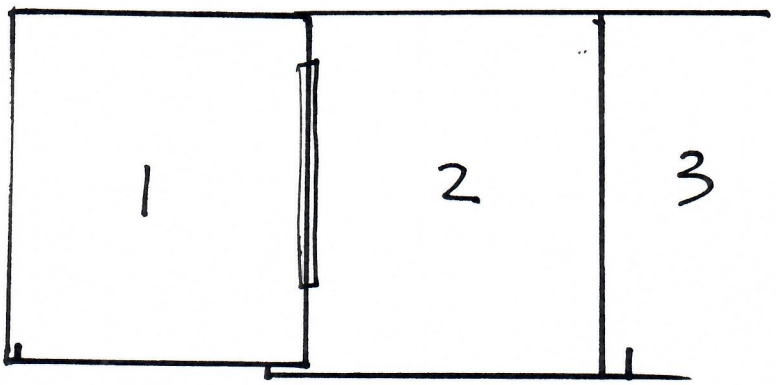



*It will be easier to do steps 11-12 one line at a time so the draft does not get away from you.*

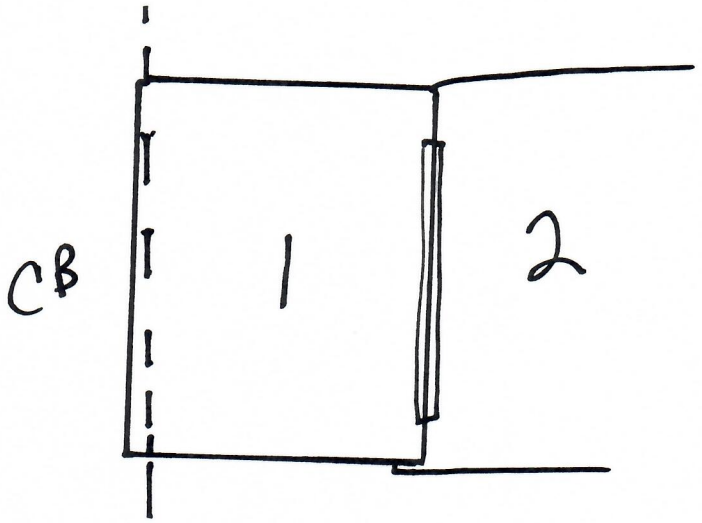
11 – Starting at one end and ignoring the CB edges for now, cut from the tip edge, to NOT through, the headsize edge on the fold line.

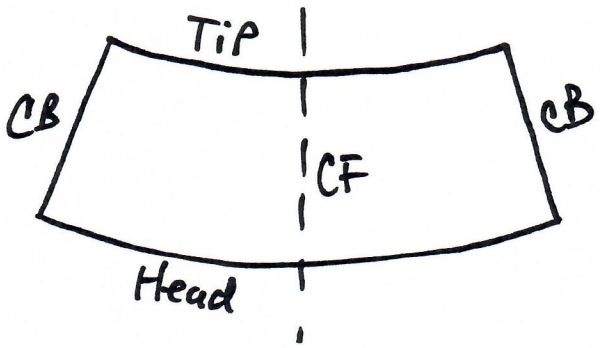


12 – Slide the cut edge over to the "8th measurement" pencil mark and tape down. Continue to do this with all the fold lines except the CB edges.




13 – On one CB edge, draw a line from the ½ "8th measurement" mark straight down to the corner on the headsize line. Cut along this line. Repeat for the other CB edge. These are your new CB lines – mark as CB. Your pattern piece should look like the image. Fold crown draft in half. Pencil in fold line and mark this new line as CF.



14 – Clean up any straight edges on the tip edge/headsize edge with a smooth line and double check your measurements. The draft is correct, but sometimes your pencil slips and the measurements grow on the paper. Your tip circumference/ perimeter should equal your crown tip edge and your head size edge should be the size you started out with. If they don't match respectively, go back and re-measure your closings to see if they grew/shrank on you. Un-tape and correct as needed.

15 – Add seam allowance and test in muslin. Draft brim or visor as desired.

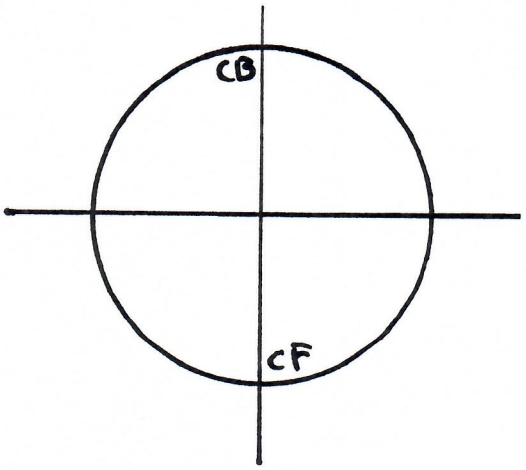
# Inverted Crowns

**Inverted Crown:**

Inverted crowns are crowns that get wider the taller they go... like the letter "V". In hat terms, the best example is the Mad Hatter's hat in Alice in wonderland. Although his hat is a wire frame structure, the design principles are the same and can be applied to a soft construction hat.

1 -Determine your head size using a tape measure. Add desired amount of ease and use this number for the draft. Ease is totally up to you. I use ¾" because it is the way I like my hats to fit. For a tighter fit, use less ease. For a looser fit, add more ease. For example: My head size is 22 ½" + ¾" ease = 23 ¼".
23 ¼" is the measurement I will be using throughout the example.

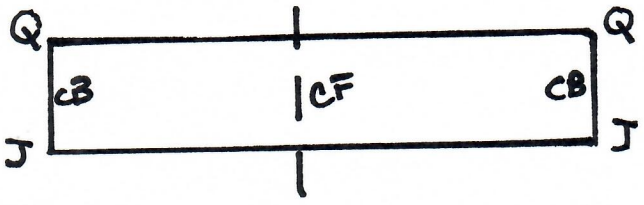
2 – Determine your tip shape. This can be anything, but a circle or oval is most common and easier to draft and sew. For an inverted crown, this shape has to be considerably larger than the "head size + ease". To get a circle: Draw an X/Y axis and use your compass. To get an oval: Draw an X/Y axis and use a headsize plate that is significantly larger than your own head size. Draw this shape on a piece of paper and label like the picture.




3 – On a separate piece of paper, draw a line the length of the headsize + ease that you are using. Label each end "J".

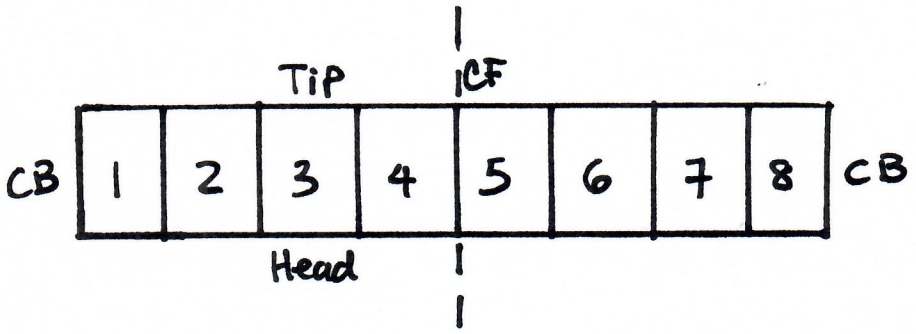
4 – Determine the desired width of your crown. In soft construction hats, you can get away with a measurement that is approximately 5" to 6" tall without having to use heavy buckram as a stabilizer. Square a line up, from each "J" of the head size line, the desired width and label the ends "Q".

5 – Connect "Q" to "Q" with a straight line. Label the two rectangle ends CB.



6 – Measure the circumference/perimeter of your tip shape and write it on the pattern piece.

7 – Neatly cut out the crown draft and fold it into eights lengthwise. Pencil-in all of the fold lines. Label as indicated.




8 – Math Time! Subtract the headsize measurement from the tip circumference measurement to determine the amount we will need to add. For example:

| | | | | | |
|---|---|---|---|---|---|
| Tip Circumference ¼" | = | 26 (23.25) | (26) Headsize + Ease | = | 23 |
| Subtracted total | = | 2 ¾" (2.75) | | | |

2 ¾" is what we have to add to the tip edge of the crown draft so that our tip pattern will fit onto it. We will have to distribute this measurement evenly so the pattern will hold its shape on the head. To do this, we divide the measurement by 8 because we folded our crown draft into 8 sections. Eight is generally accepted as a nice even number that helps form a smooth arc. So, for the example:

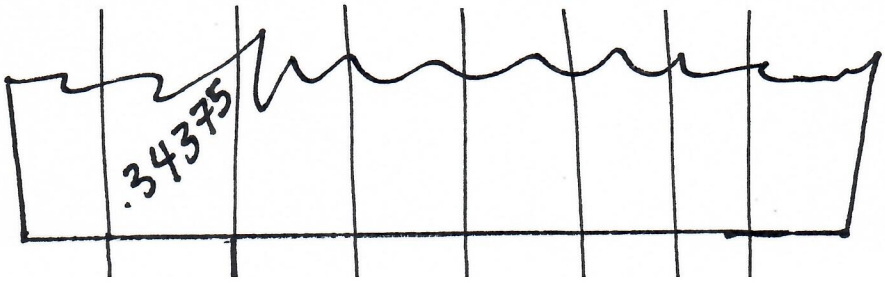
2 ¾" (2.75) divided by 8 = .34375

We'll call this number the "8th measurement". That means that we have to add .34375 to each section to get the pattern pieces to work. Sometimes the result is a simple fraction; sometimes the result is the scary number you see before you.

## TIP INTERVENTION

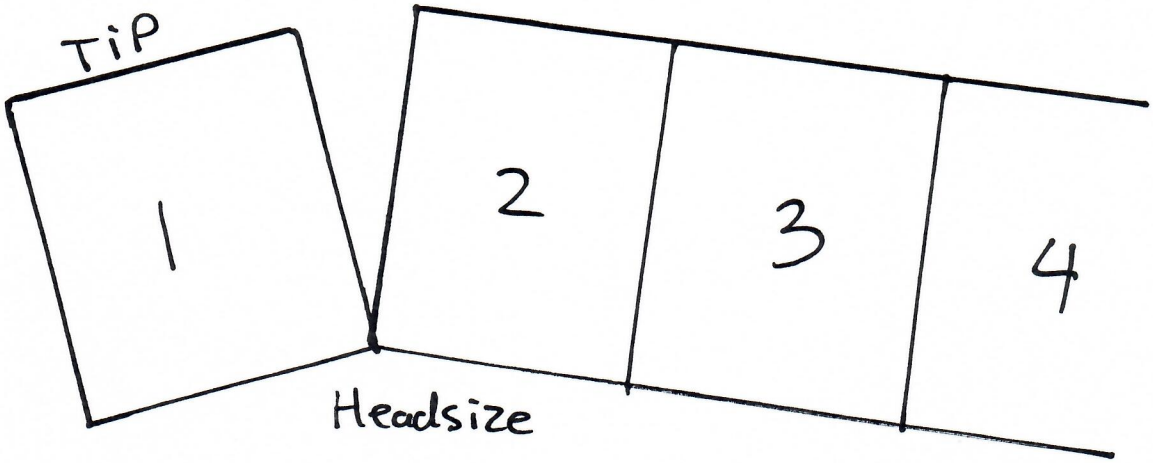
*If the thought of figuring out the fraction equivalent of a decimal number scares you, try this:*

*Take the number you have to divide, in this case 2 ¾", and measure it out onto a small scrap of paper with a straight edge. Fold that piece of paper into eights – really crease the paper that way the lines are obvious. Unfold the paper and pencil in the first fold line. Separate the section on that line. That little scrap of paper is the exact measurement will you need and you can use it as you "ruler" from this point on. Don't forget to label it with the measurement.*

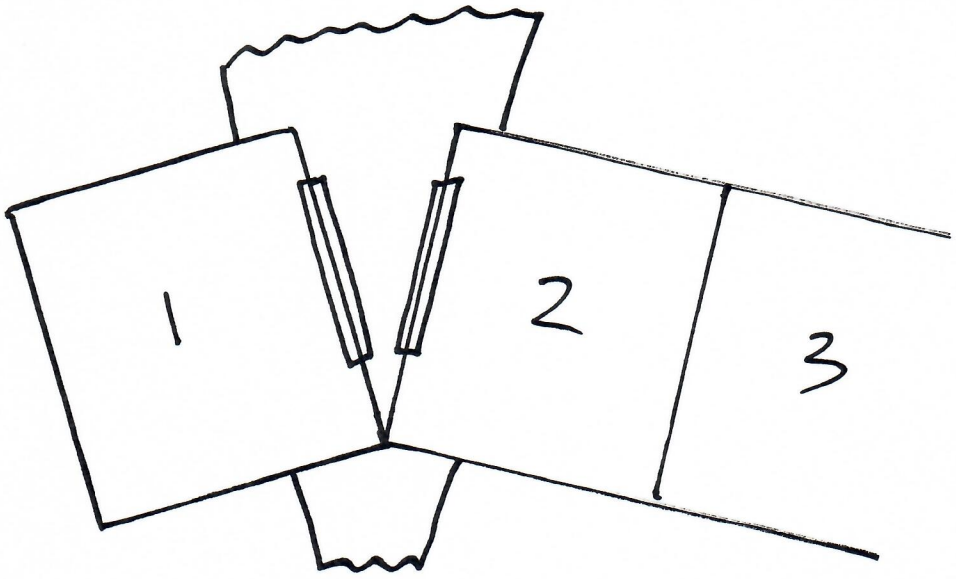


*It will be easier to do steps 9 - 10 one line at a time so the draft does not get away from you.*

9 – Starting at one end of the crown draft and ignoring the CB edges for now, cut from the tip edge, to NOT through, the headsize edge on the fold line.

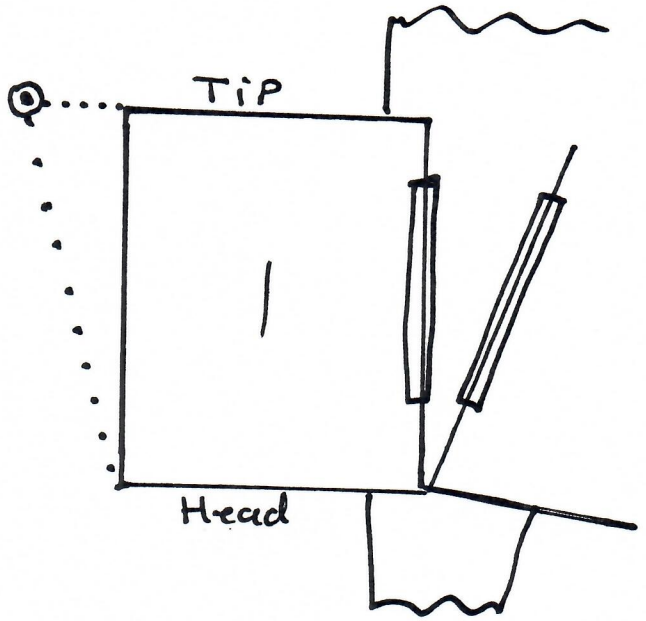



10 – Open out the cut line the required distance (in this case .34375") and tape down to a piece/scrap of paper behind the draft. You now have a "V" shaped addition to the draft. Continue to do this all the way to the last fold line.



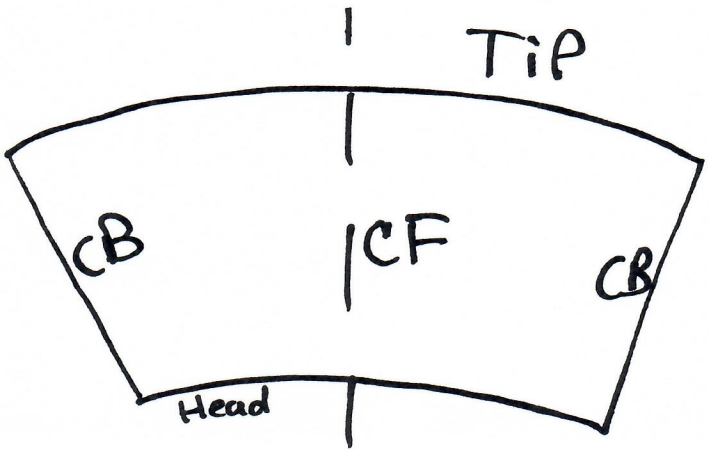
11 – On each of the CB edges, we are going to mark, to the outside of the draft, ½ of the "8th measurement" because the CB edges come together on the finished product and are essentially one seam. Find the measurement on the ruler or fold the "paper ruler" in half and mark this measurement on the tip edge as indicated in the picture.

12 – On one CB edge, draw a line from the ½ "8th measurement" mark straight down to the corner on the headsize line. Repeat for the other CB edge. These are your new CB lines – mark as CB. Your pattern piece should look like the image. Fold crown draft in half. Pencil in fold line and mark this new line as CF.




13 – Clean up any straight edges on the tip edge/headsize edge with a smooth line and double check your measurements. The draft is correct, but sometimes your pencil slips and the measurements grow on the paper. Your tip circumference/ perimeter should equal your crown tip edge and your head size edge should be the size you started out with. If they don't match respectively, go back and re-measure your openings to see if they grew/shrank on you. Un-tape and correct as needed.

14 – Add seam allowance and test in muslin. Draft brim or visor as desired.



# 6 Section Crowns

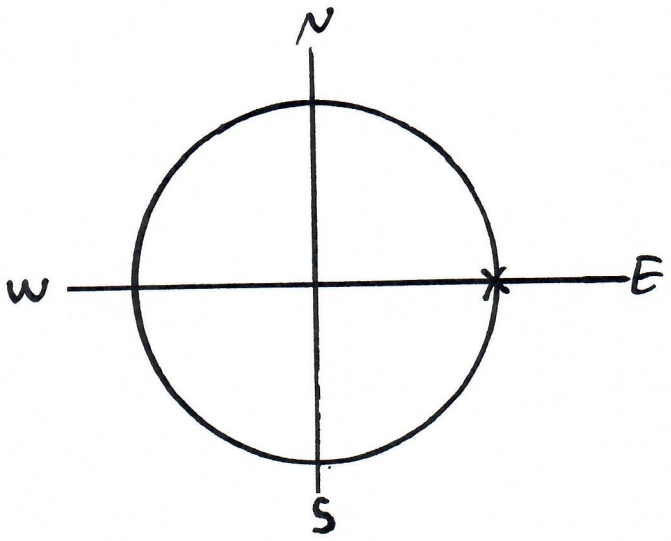
## DRAFTING A 6 SECTION CROWN

Before you start, you will need to decide a couple of things.
A close fitting (contours to the head) crown will have a shorter crown depth. A loose fitting crown (like a 70's newsboy cap) will have a longer crown depth. You will also need to determine if this hat will have a band at the base. You will need to subtract the width of the band from the overall crown depth measurement first; otherwise, your crown depth will be too long.

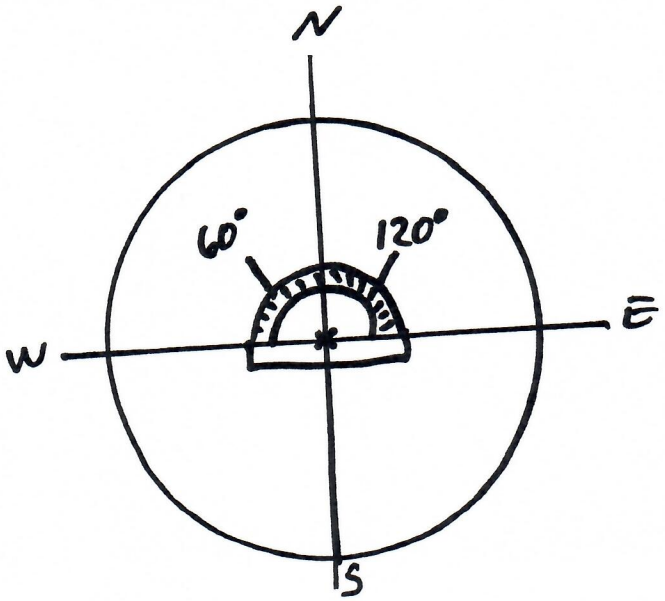
1 - Measure your head for desire crown depth. Start at the top of your head (with the measuring tape at zero) and measure down to where you want the crown to stop on your ear

2 - Lightly draw an X/Y axis large enough to accommodate the total diameter of the head. For example: if your crown depth measures 7 ½" then your axis needs to be at least 15 inches wide/high. Mark as the picture. From the center of the axis, mark your crown depth on one of the legs.

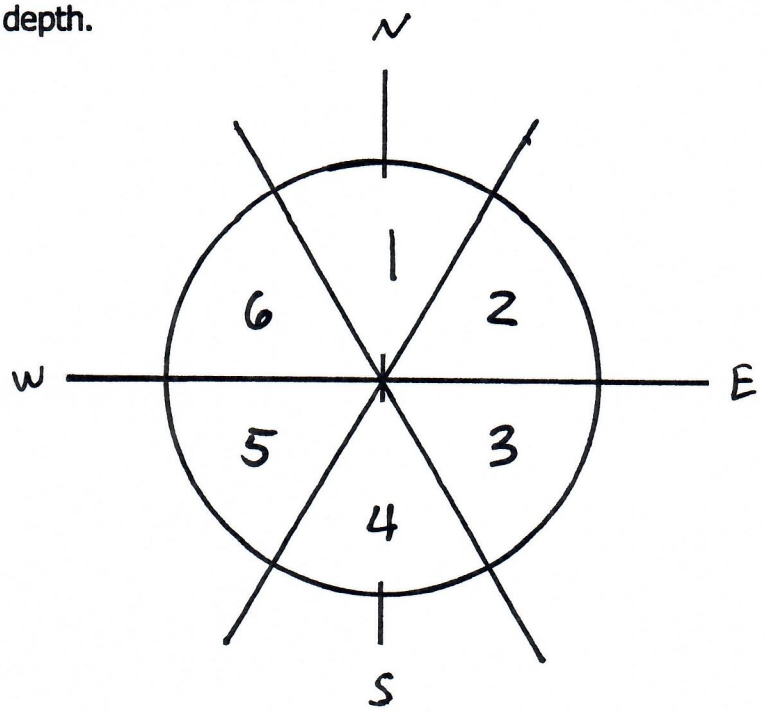
3 - Using a compass, place the point at the axis intersection and the pencil at the crown depth mark and draw a circle.



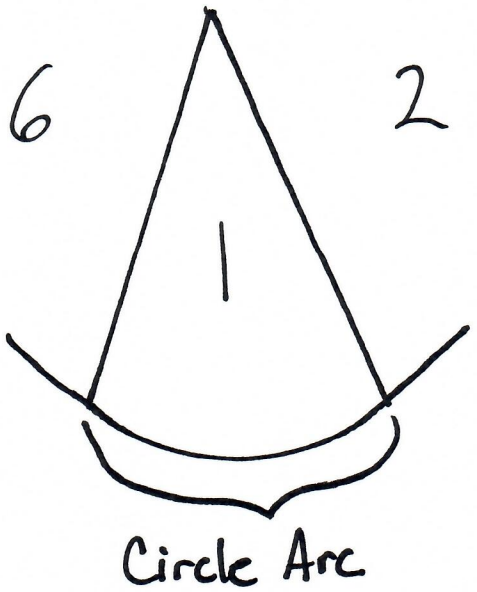

4 - Place the center of a protractor on the X/Y axis and mark off the 60° and the 120° angles. Erase the North/South line of the axis leaving a small mark at the intersection (this prevents confusion later)



5 - Draw a line that connects the 60° mark and the axis intersection from edge to edge of the circle. Repeat with the 120° mark. Your circle should look like the picture. You now have a circle divided into 6 sections. Label each section 1-6. You now have 6 potential crowns to play with at this particular crown depth.




6 - Pick a section (it's helpful to start with #1) and measure the circle arc of the section.



Math time! The best way to explain how to do this is to use an example. Basically, you are taking your head size, diving it by 6 and subtracting the necessary excess from the section's circle arc to get the size of your head within the shape you are drafting. We divide by 6 because this is a six section crown.

For example:

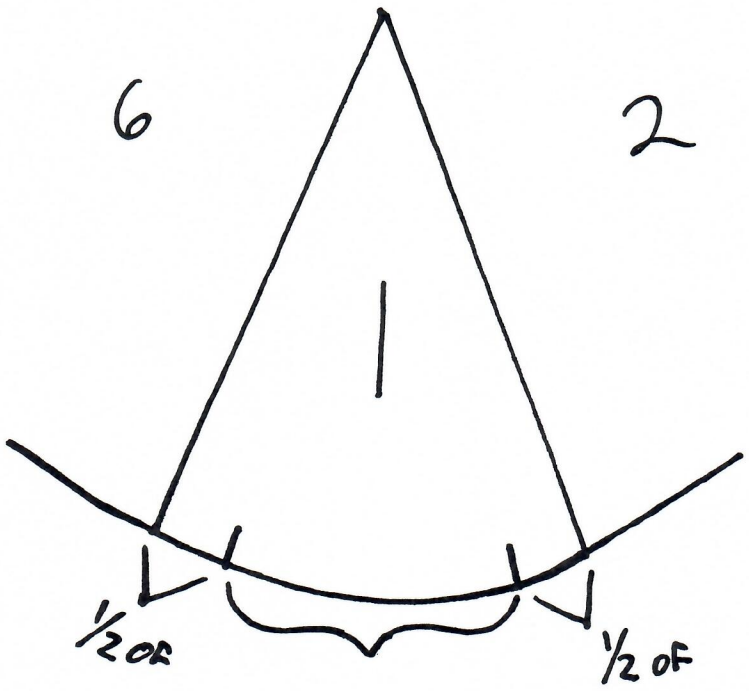
| | | |
|---|---|---|
| Head size + ease | = | 23 ¼" (23.25) |
| Divided by 6 | = | 3 7/8" (3.875) |

So that means that each circle arc section of a 6 section crown must measure 3 7/8" so that it will fit your head. As it stands now, the drafted circle arc is way too big to fit your head so we have to kill some excess. For this example:

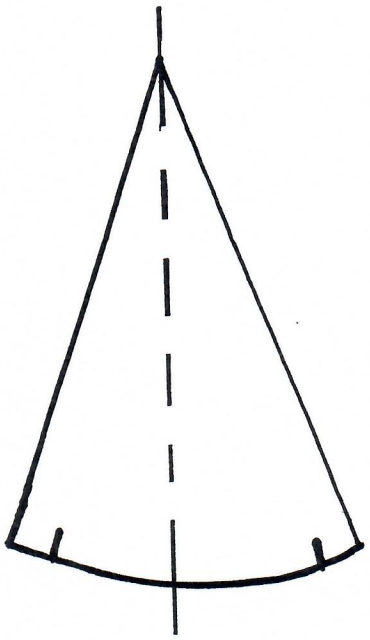
| | |
|---|---|
| The drafted circle arc | = 7 ½" (7.5) |
| "Divided by 6" total | = 3 7/8" (3.875) |
| The difference is | = 3 5/8" (3.625) |

So we have to remove 3 5/8" (3.625) inches to get the drafted circle arc to measure 3 7/8".

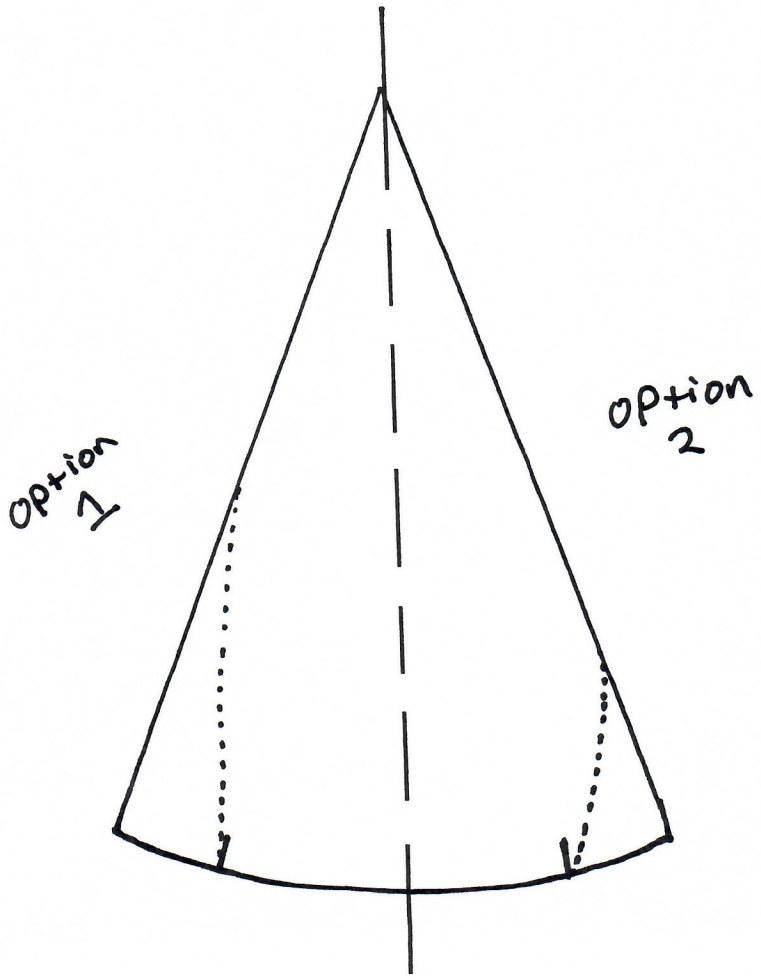
7 - On the circle arc, measure in from one leg, half of the difference and make a mark. Do the same from the other leg. The distance in between the two marks should measure 3 7/8" or your specific measurements. If it does not, fudge the results as necessary by moving the two marks in or out as needed.

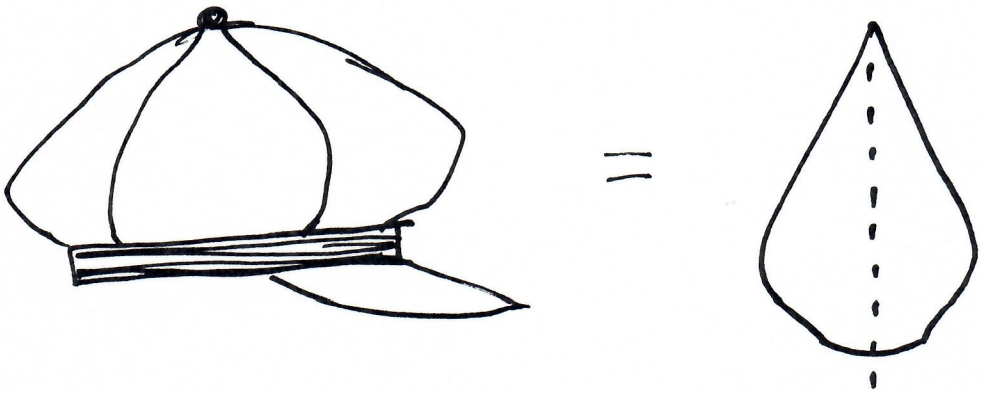


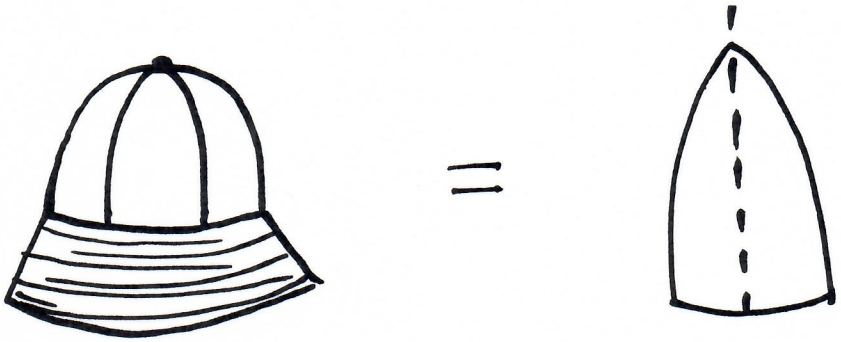
8 - Now we can focus on drafting the crown shape. Still working with the first section, carefully separate it from the rest of the circle and fold it in half lengthwise and pencil in the crease.



9 - Starting at one of the marks you drew for the head size; draw your desired shape up to the top point. Refer to the pictures for shape results. You can get as crazy as you want with the shape, just remember, what you draft you must sew.

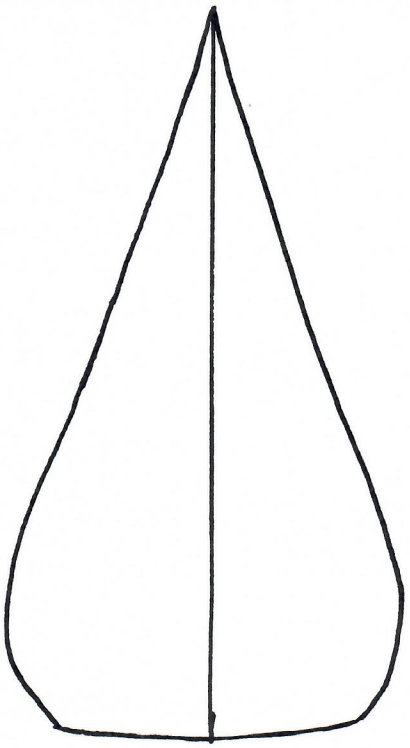






10 - Once your shape is determined, fold the section along the crease and trace onto the other side to get a symmetrical section piece. Tape down to another scrap of paper and add seam allowance, then test in muslin.

*We draft the entire circle because it gives us a chance to create 6 different crown shapes for one head size and crown depth. Now that you have the measurement correct on the first section you can lay it over the other sections and mark the correct head size. Just be sure to center the first section within the other sections – sometime the sections grow or shrink during the draft.*



# Beret Crowns

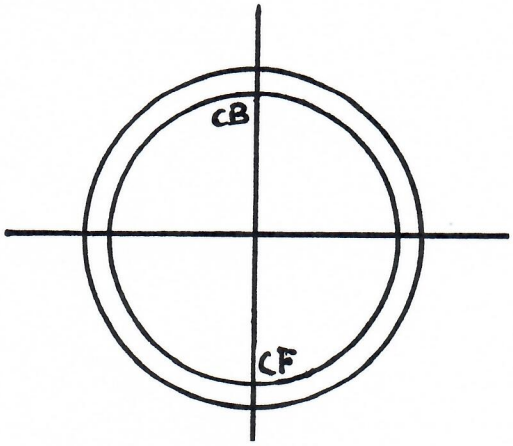
**Gathered Beret Crown**

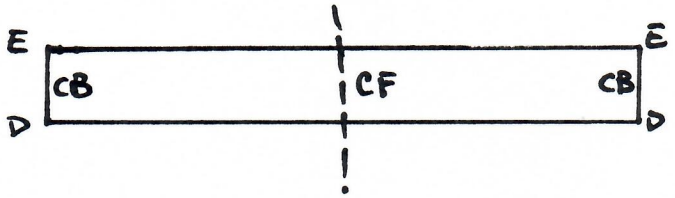
This draft can have a brim, visor or exist on its own. The general idea is to draft a headband and then gather a large circle into it. The result is simple and highly effective.

1 – Decide how poofy you want your beret to be. The larger the "crown" circle, the poofy-er the top will be.

2 - Draw an X/Y axis larger than you need for the crown. Measure out on one leg of the axis the desired radius and make a mark. A basic diameter size for a gathered beret is typically 20" or so, but feel free to experiment. The whole point is that the circumference of the circle is no smaller than the headsize + ease. Place your compass point at the X/Y axis and the pencil at the mark and draw the circle.

3 – On the same axis leg as before, measure out ½" past the drawn circle. Place your compass point at the X/Y axis and the pencil at the new mark and draw the circle. This new circle is your seam allowance.




*Steps 4 - 8 are for a hat with a brim or visor. If a gathered beret without a brim or visor is required, follow steps 4A – 8A*

4 – On a separate piece of paper, draw a line the length of the head size you are using. Label each end "D".

5 – Determine the desired width of your band. On a basic gathered beret the band is around 1 ½", but on a stylized beret, like a chef's hat, the band can be up to 9 inches. Square a line up, from each "D" of the head size line, the desired width and label them "E".

6 – Connect "E" to "E" with a straight line.

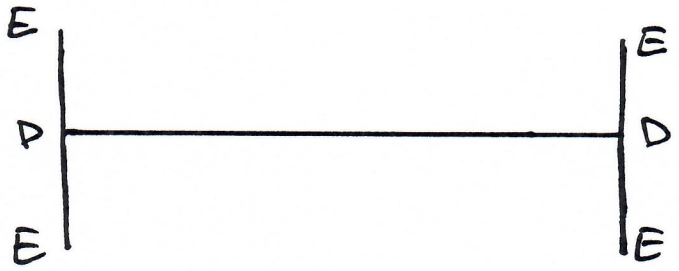
7 – Find the center of the rectangle you just drafted by folding it in half. Pencil in the fold line and label it CF. Label the two ends CB.

8 – Add seam allowance to the head band, draft a brim or visor as desired and test the draft in muslin.

*For a Gathered Beret without a brim or visor:*

4A - On a separate piece of paper, draw a line the length of the head size you are using. Label each end "D".

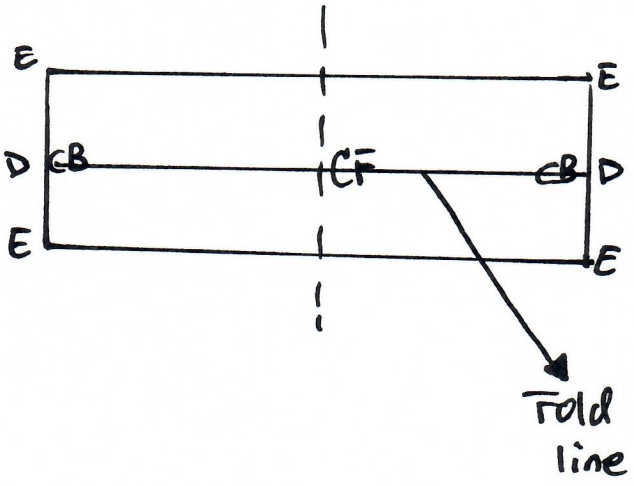
5A – Determine the desired width of your band. On a basic gathered beret the band is around 1 ½", but on a stylized beret, like a chef's hat, the band can be up to 9 inches . Square a line up and down, from each "D" of the head size line, the desired width and label them "E".




6A – Connect "E" to "E" both above the headsize line and below it with straight lines.

7A – Find the center of the rectangle you just drafted by folding it in half. Pencil in the fold line and label it CF. Label the two ends CB. By drafting above and below the headsize line, the headsize line now becomes the fold line for the beret band.

8A – Add seam allowance to the head band and test the draft in muslin.

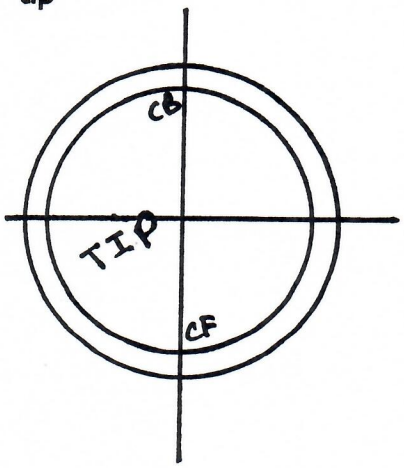


**Flat Beret Crown**

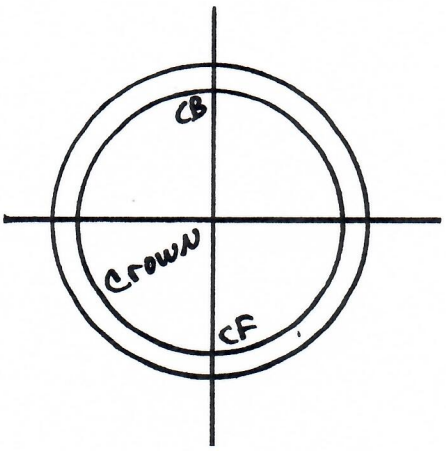
This draft can have a brim, visor or exist on its own. The general idea is to draft two circles, one with a head opening. The result is simple and highly effective.

1 - Draw an X/Y axis larger than you need for the tip. Measure out on one leg of the axis the desired radius and make a mark. A basic diameter size for a flat beret is 14" - 18" or so, but feel free to experiment. Place your compass point at the X/Y axis and the pencil at the mark and draw the circle.

2 – On the same axis leg as before, measure out ½" past the drawn circle. Place your compass point at the X/Y axis and the pencil at the new mark and draw the circle. This new circle is your seam allowance. Label this circle "tip"

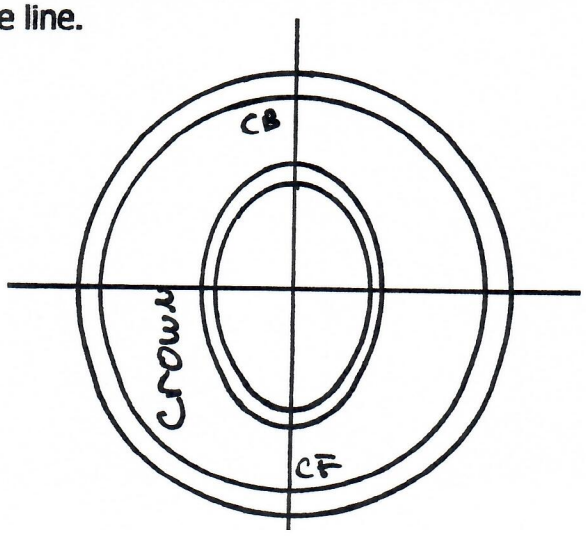



3 – Repeat steps 1 – 2 and label this new circle "crown"




4 – On the "crown" circle, place a headsize template (the required measurement + ease) on the axis – centering and matching notches. Trace around the template. Remove template.

5 – To the inside of the template/headsize line, add ½" seam allowance. Cut the excess paper out on the headsize seam allowance line.



*Steps 6 - 10 are for a hat with a brim or visor. If a gathered beret without a brim or visor is required, follow steps 4A – 8A*

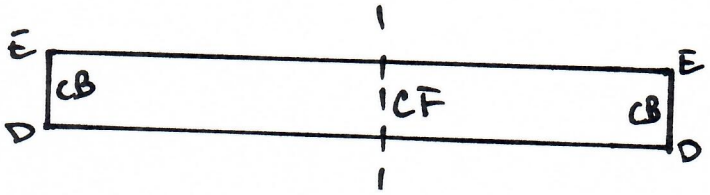
6 – On a separate piece of paper, draw a line the length of the head size you are using. Label each end "D".

7 – Determine the desired width of your band. On a basic flat beret the band is around 1 ½". Square a line up, from each "D" of the head size line, the desired width and label them "E".

8 – Connect "E" to "E" with a straight line.

9 – Find the center of the rectangle you just drafted by folding it in half. Pencil in the fold line and label it CF. Label the two ends CB.

10 – Add seam allowance to the head band, draft a brim or visor as desired and test the draft in muslin




*For a Flat Beret without a brim or visor:*

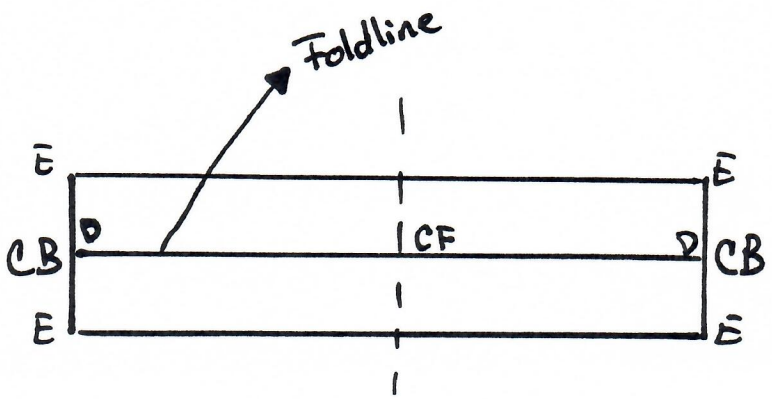
6A - On a separate piece of paper, draw a line the length of the head size you are using. Label each end "D".

7A – Determine the desired width of your band. On a basic gathered beret the band is around 1 ½", but on a stylized beret, like a chef's hat, the band can be up to 9 inches . Square a line up and down, from each "D" of the head size line, the desired width and label them "E".

8A – Connect "E" to "E" both above the headsize line and below it with straight lines.

9A – Find the center of the rectangle you just drafted by folding it in half. Pencil in the fold line and label it CF. Label the two ends CB. By drafting above and below the headsize line, the headsize line now becomes the fold line for the beret band.

10A – Add seam allowance to the head band and test the draft in muslin.



# Basic Brims

Brims come in a variety of sizes and shapes. They can have decorative edges or be plain. The brim structures in this lesson are versatile and lend themselves to a multitude of possibilities.

There are 3 basic brim shapes:

Round - using the X/Y axis as a compass point

Oval - echoing the shape of the headsize plate

Shaped - asymmetrical, organic or square

Any of these brims can be:

Sloped - angled down past the headsize line

or

Flared - resulting in a circular ruffled effect

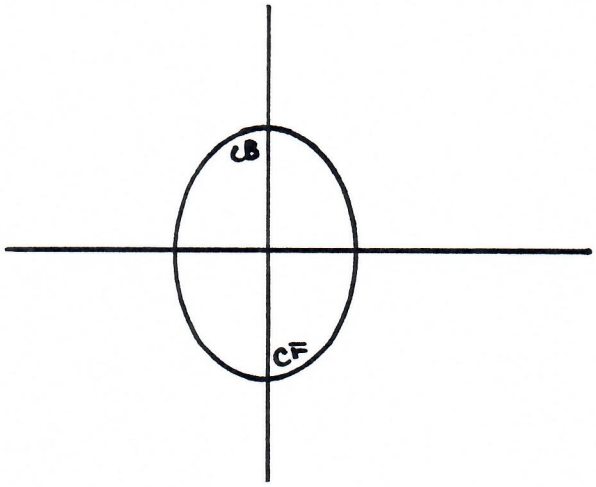
# Sloped Brims

## Basic Sloped Brim

This brim is the most common brim on the market; it has several possibilities. By simply changing a couple of measurements you can go from the basic bucket hat to a close fitting flapper cloche. The only thing to keep in mind is that if you want a cloche brim, your width will not be more than 3 to 4 inches. Make sure you have the headsize + ease measurement handy.

1 – Draw a sizeable X/Y axis.

2 – Center the requisite headsize plate on the X/Y axis, matching notches. Trace around plate then remove the template from the draft. Label as indicated on image.

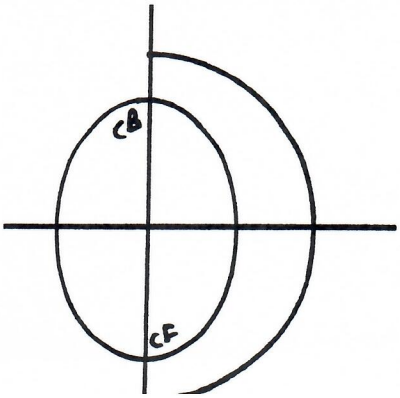


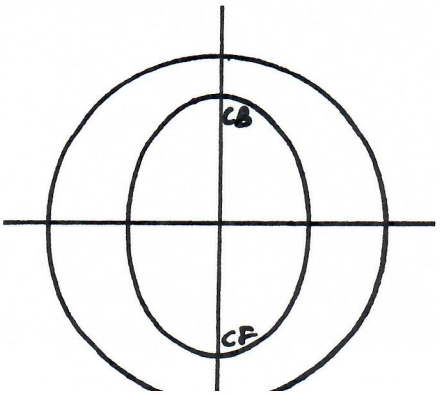

Choose which shape brim you would like:

***For "Round Brim"***

A – On CF leg of the X/Y axis, mark desired brim width, in pencil, out from headsize line. This measurement can be anything you want; just note that the brim, when sewn, will be wider at the sides than at CF and CB.

B – Place the point of the compass on the X/Y axis and the pencil on the CF "brim width" mark and draw the circle from the CF leg of the axis to the CB leg of the axis.



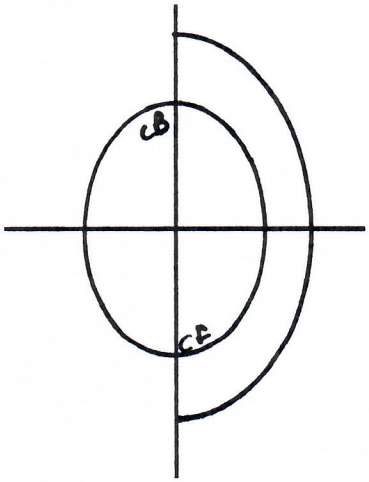



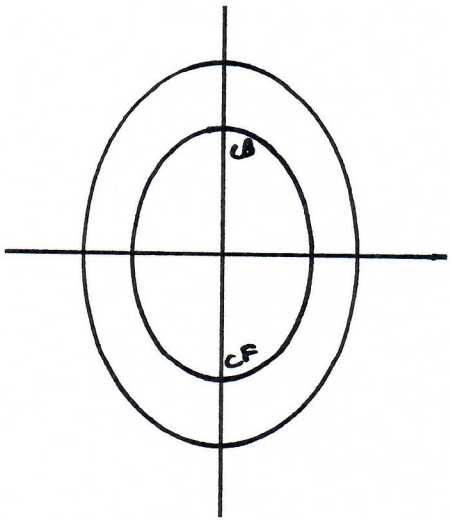
***For "Oval" Brim***

A – On CF, one side (right or left) and CB legs of the axis, measure out the desired width of the brim and mark, in pencil, on all three legs. Make sure to keep these measurements consistent.

B – Find the measurement on the ruler and place the ruler on one of the legs you have marked.

C – Following the shape of the headsize line, consistently mark the width of the brim from CF to CB. Your new marks will look like a larger version of the oval. Lightly pencil the gaps between the marks.

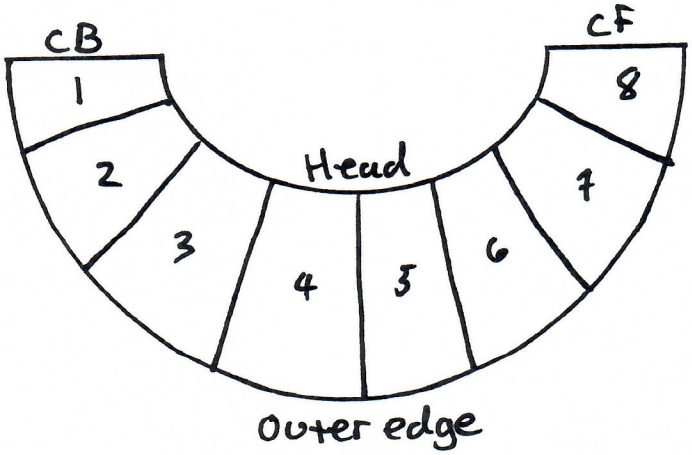



<u>For all Sloped brims</u>:

3 – Carefully cut out the brim along the outer edge, CF line, CB line and headsize line only on the side you have drafted. Save the other half of the draft for another type of brim later.

4 – Fold your cut-out draft, lengthwise, into eights and pencil in the fold lines. Label as indicated in the image.

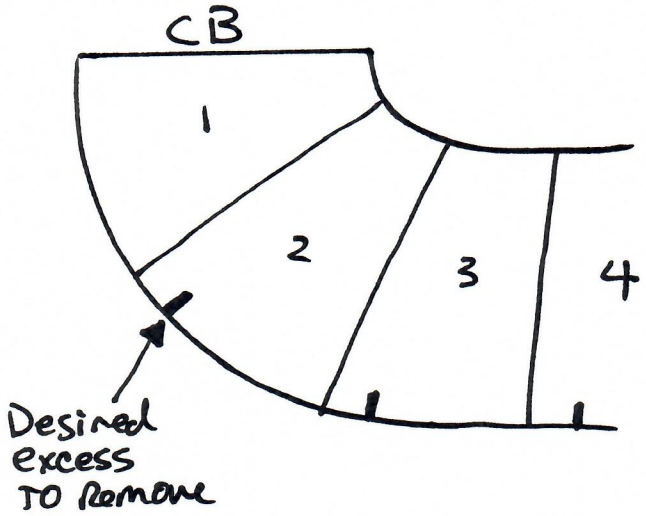


You now need to figure how much of a slope you want your brim to have. This is determined by how much you eliminate on each section (this will make more sense in a minute). Two basic versions are The Bucket /Average slope and The Cloche slope. Both are drafted the exact same way. The main difference being that the cloche has a small width and is very close to the head. My general rule is: The wider the brim, the more you can eliminate on the outer edge, but since no one has ever chiseled this rule in stone, feel free to bend it to your whim.

5 - For Slope:

A - Ignoring CB and CF for now, on your cut-out draft, find the fold line closest to CB.

B - On the outer edge line, NOT the headsize line, measure the desired amount of excess you wish to eliminate and mark, in pencil, on the outer edge only.

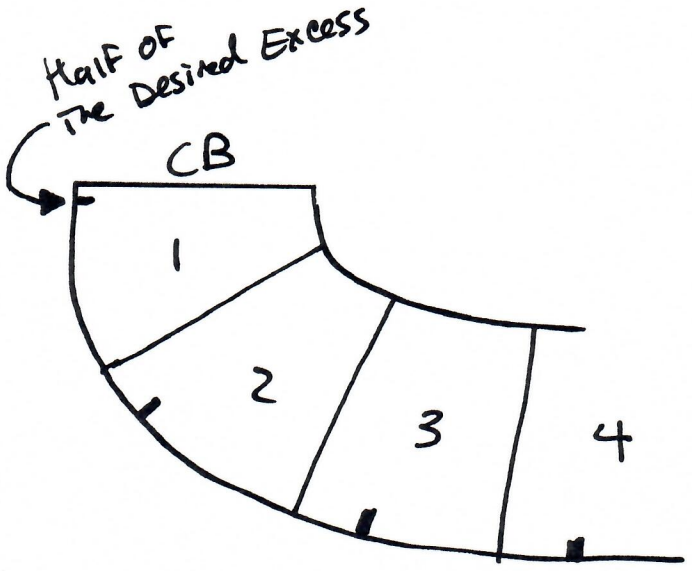



*Here is a chart to help you decide, but you are never limited to it. It is meant to give you a general idea about proportion. Please feel free to experiment!

| Brim Width | Eliminate From Each Section |
|---|---|
| 2" -3" | ¼" to 3/8" |
| Cloche Effect | ½" |
| 6" | 3/8" to 5/8" |
| 10"-12" | 5/8" to 1" |
| 15"+ | Over 1" |

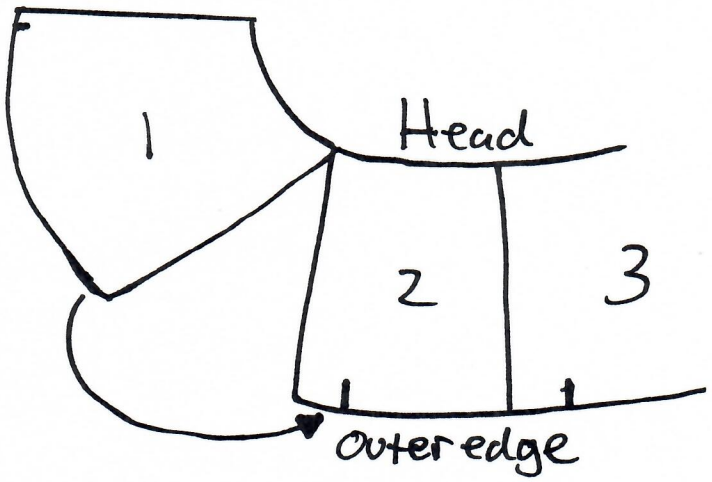
C - Do this with all sections, ignoring CF and CB lines for now. When making your marks, it helps to do two things: Stay consistently to one side of each fold line and use a colored pencil. These tips help you to avoid confusion later.

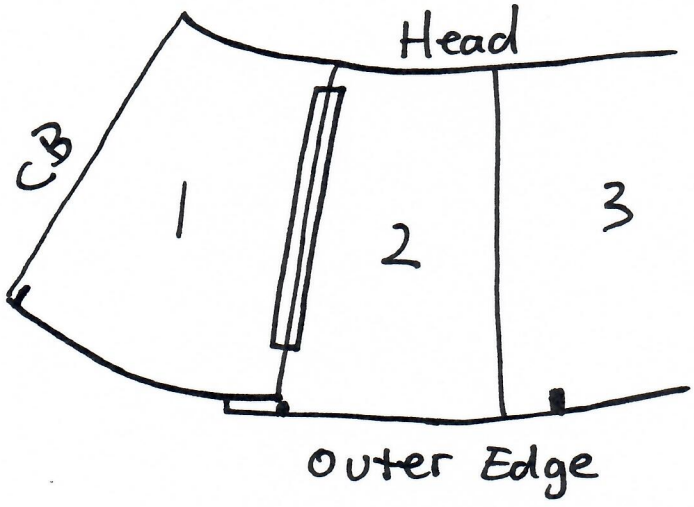
D - On the CB line you are only going to measure in ½ of the measurement you have chosen to eliminate. Why? Because the CB line is just ½ of a complete seam that can be cut on fold or with a seam. Do the same thing to the CF line.



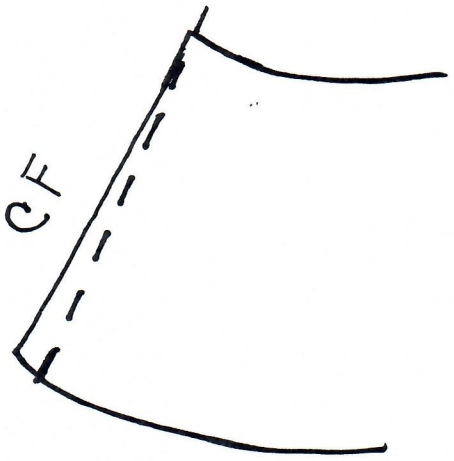

6 – Ignoring the CF and CB lines for now, cut the original fold lines from the outer edge to the headsize line. Be sure not to cut through the headsize line.

7 – Slide the cut fold line to the "excess elimination" mark you made and tape it down. Repeat for remaining fold lines.

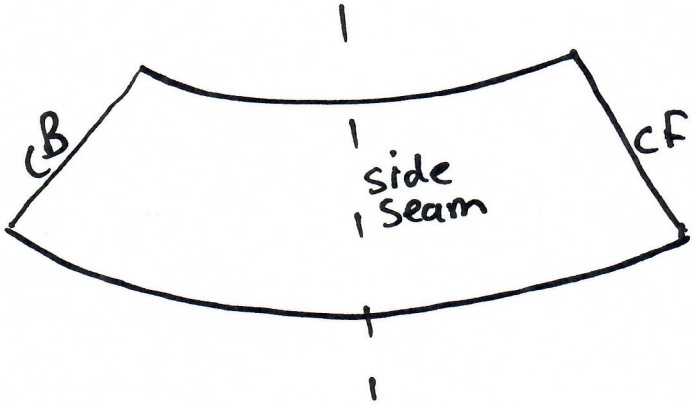


8 – At the CF line, draw a new line from the corner of the headsize line to the "excess elimination" mark. Cut off the small triangle, you just created, on this line. Repeat for CB line.




Your brim should look something like this:




9 – Clean up the outer edge with a smooth line/curve. Your headsize line should be fine, but if you notice a lot of rough corners, clean it up with a smooth curve/line as well.

10– Add seam allowance and test in muslin against the crown you drafted. CF can be cut on fold or with a seam.

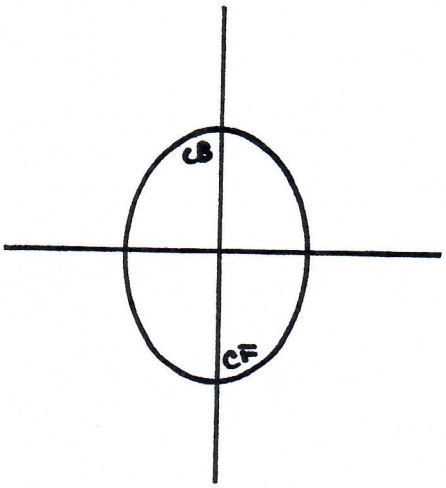
# Flared Brims

**Basic Flared Brim**

This brim is the type that has a floppy appearance, much like a circular flounce. This brim works best in a large width and oval shaped brim. This brim can get away from you quickly if you expand too much. Make sure you have the headsize + ease measurement handy.

1 – Draw a sizeable X/Y axis.

2 – Center the requisite headsize plate on the X/Y axis, matching notches. Trace around plate then remove the template from the draft. Label as indicated on image.

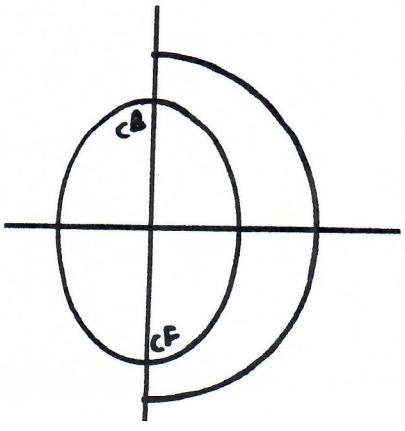


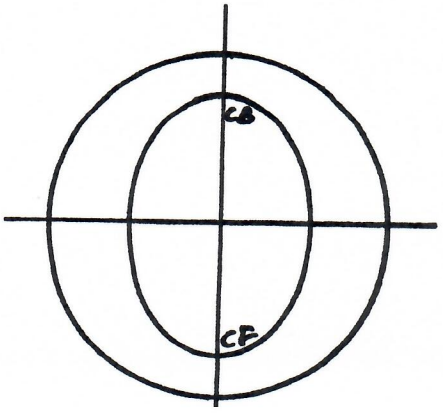

Choose which shape brim you would like:

***For "Round Brim"***

A – On CF leg of the X/Y axis, mark desired brim width, in pencil, out from headsize line. This measurement can be anything you want; just note that the brim, when sewn, will be wider at the sides than at CF and CB.

B – Place the point of the compass on the X/Y axis and the pencil on the CF "brim width" mark and draw the circle from the CF leg of the axis to the CB leg of the axis.



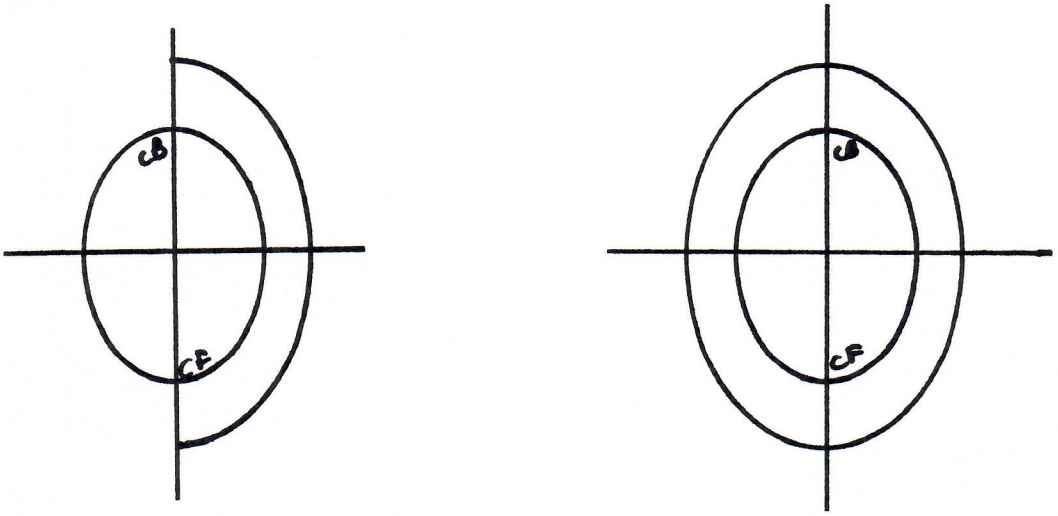



***For "Oval" Brim***

A – On CF, one side (right or left) and CB legs of the axis, measure out the desired width of the brim and mark, in pencil, on all three legs. Make sure to keep these measurements consistent.

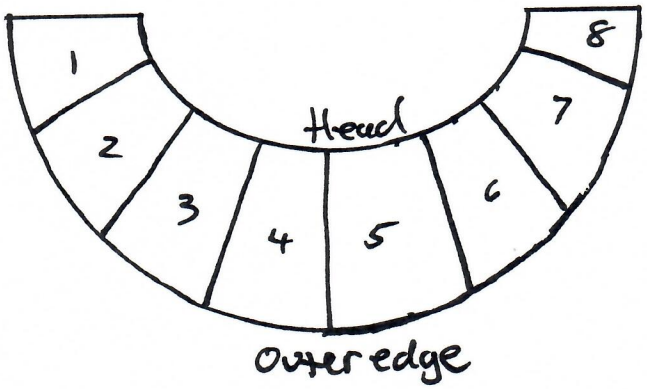
B – Find the measurement on the ruler and place the ruler on one of the legs you have marked.

C – Following the shape of the headsize line, consistently mark the width of the brim from CF to CB. Your new marks will look like a larger version of the oval. Lightly pencil the gaps between the marks.




3 – Carefully cut out the brim along the outer edge, CF line, CB line and headsize line only on the side you have drafted. Save the other half of the draft for another type of brim later.

4 – Fold your cut-out draft, lengthwise, into eights and pencil in the fold lines. Label as indicated in the image.

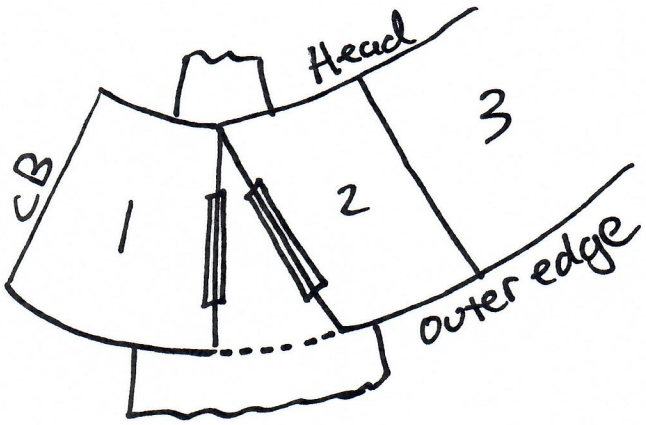


*It may help to do steps 5-6 one fold line at a time*

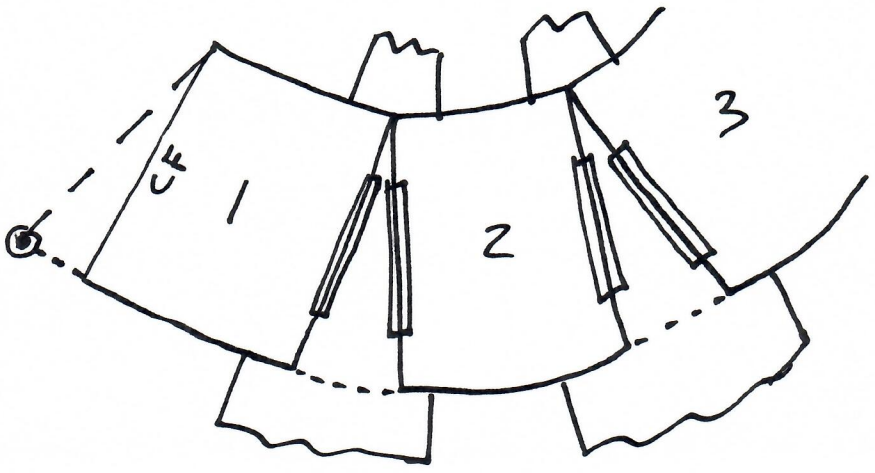
5 – Ignoring the CF and CB lines for now, cut the original fold lines from the outer edge to the headsize line. Be sure not to cut through the headsize line.

6 – Open out the cut fold line to your desired expansion. Place a scrap of paper behind the opening and tape it down. Repeat for remaining fold lines.

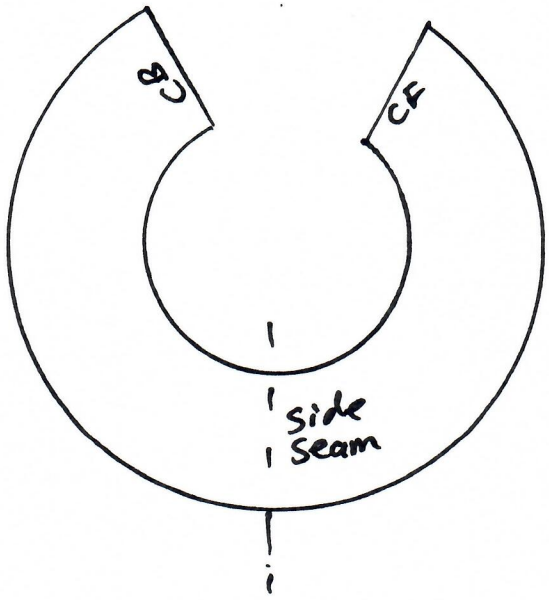
Only you can determine the amount you want to expand each section. At one point you can expand so much, your pattern will double back on itself, so be careful. For now, try expanding no more than one inch on each section fold line.




7 – At the CF line, measure out ½ the expansion measurement on the outer edge and make a mark. Draw a straight line to the corner of the headsize line. This is your new CF seam line. Repeat for CB.



Your pattern should look something like this:




8 – Clean up the outer edge with a smooth line/curve. Your headsize line should be fine, but if you notice a lot of rough corners, clean it up with a smooth curve/line as well.

9 – Add seam allowance and test in muslin against the crown you drafted.

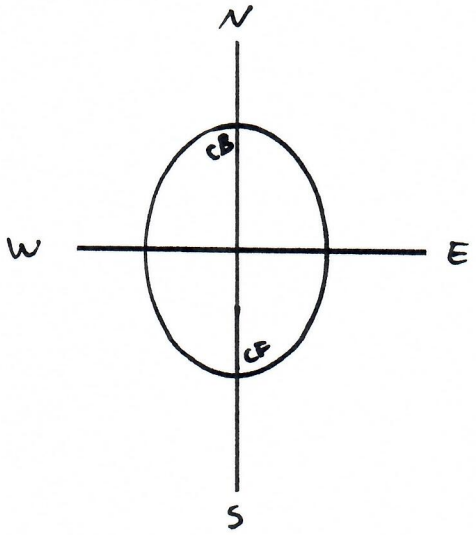
# Asymmetrical Brims

## Asymmetrical Brim

An asymmetrical brim is any brim that has multiple widths somewhere on the body of the brim. You can have the wider section on the front, back or sides. This brim works well as aboth sloped and flared; however, only the instructions for sloped will be given. Make sure you have the headsize + ease measurement handy.

1 – Draw a sizeable X/Y axis.

2 – Center the requisite headsize plate on the X/Y axis, matching notches. Trace around plate then remove the template from the draft. Label as indicated on image.

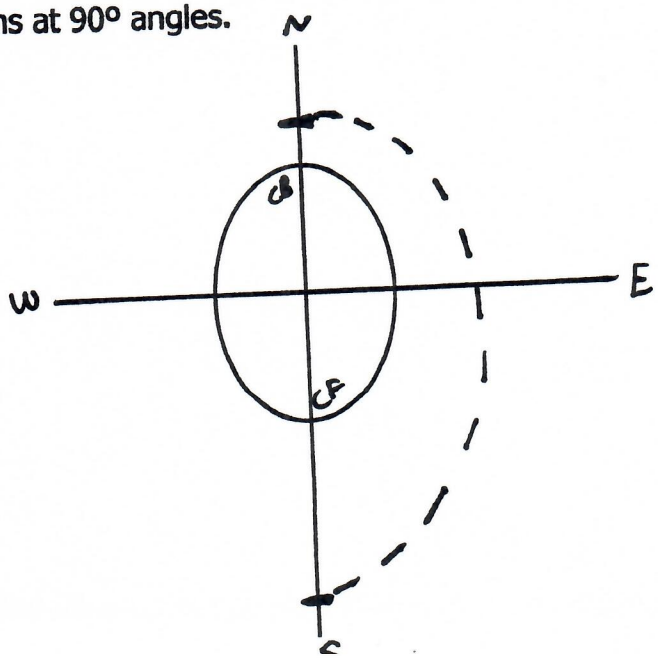


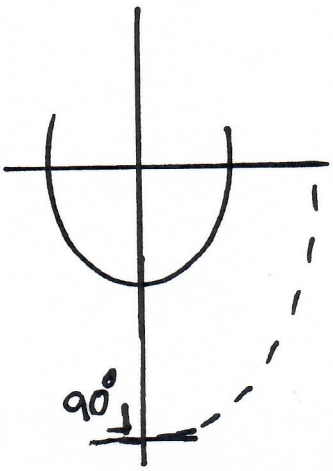

*For this example, the wider part is going to be on the front.*

3 – On the north leg, measure out your desired width.

4 – On the southern leg, measure out your desired width. Remember, it needs to be different than the front.

5 – Draw a smooth line/curve connecting the two marks, keeping the north leg and southern leg intersections at 90° angles.

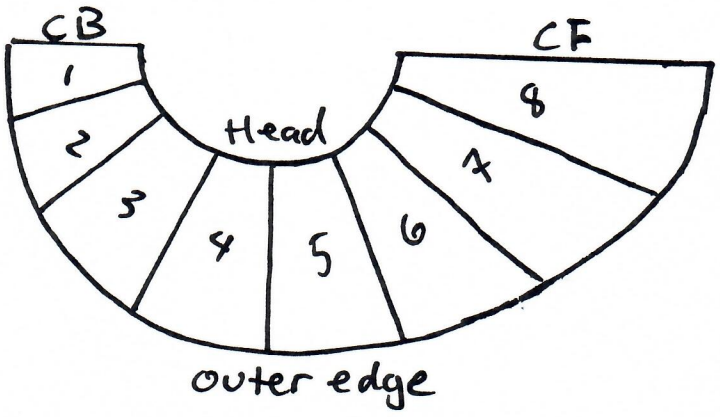


For Sloped brim:

6 – Carefully cut out the brim along the outer edge, CF line, CB line and headsize line only on the side you have drafted. Save the other half of the draft for another type of brim later.

7 – Fold your cut-out draft, lengthwise, into eights and pencil in the fold lines. Because the draft is irregular, use the headsize line as your reference point. It will keep your folds consistent even if the brim's outer edge isn't. Label as indicated in the image.

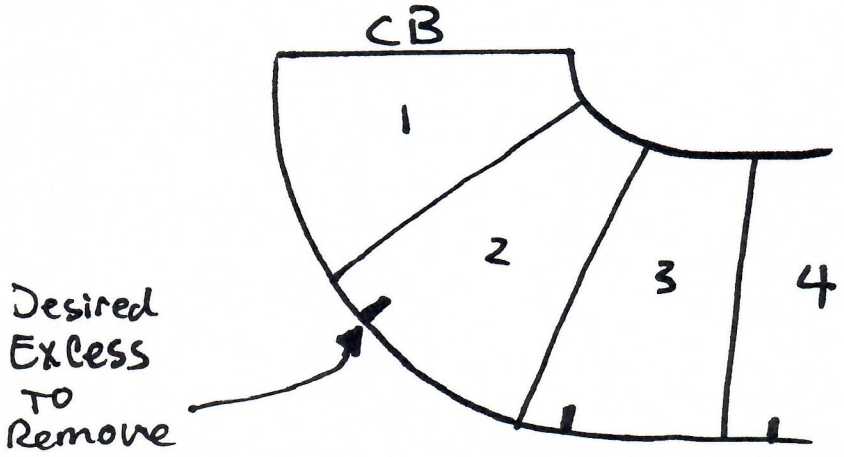



You now need to figure how much of a slope you want your brim to have. This is determined by how much you eliminate on each section (this will make more sense in a minute). Two basic versions are The Bucket /Average slope and The Cloche slope. Both are drafted the exact same way. The main difference being that the cloche has a small width and is very close to the head. My general rule is: The wider the brim, the more you can eliminate on the outer edge, but since no one has ever chiseled this rule in stone, feel free to bend it to your whim.

8 - For Slope:

A - Ignoring CB and CF for now, on your cut-out draft, find the fold line closest to CB.

B - On the outer edge line, NOT the headsize line, measure the desired amount of excess you wish to eliminate and mark, in pencil, on the outer edge only. You probably feel compelled to increase or decrease the measurement of elimination as you go around the brim because of the varying widths, but don't. I always draft it this way and it works for me.

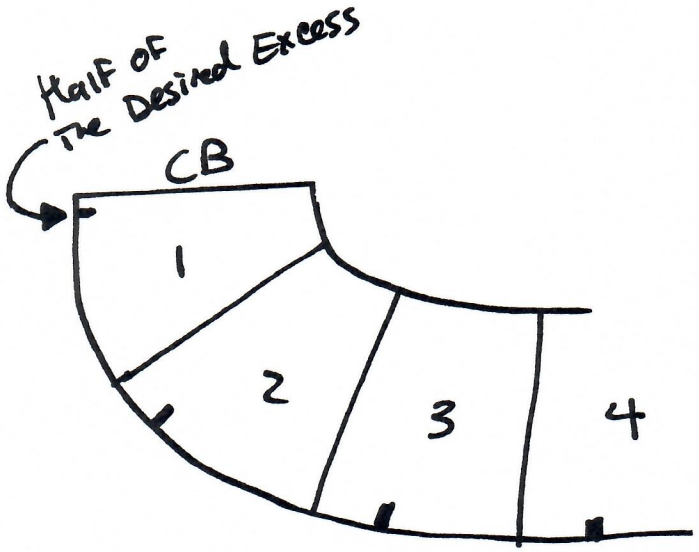


*Here is a chart to help you decide, but you are never limited to it especially with asymmetrical brims. It is meant to give you a general idea about proportion. Please feel free to experiment!

| Brim Width | Eliminate From Each Section |
|---|---|
| 2" -3" | ¼" to 3/8" |
| Cloche Effect | ½" |
| 6" | 3/8" to 5/8" |
| 10"-12" | 5/8" to 1" |
| 15"+ | Over 1" |

C - Do this with all sections, ignoring CF and CB lines for now. When making your marks, it helps to do two things: Stay consistently to one side of each fold line and use a colored pencil. These tips help you to avoid confusion later.

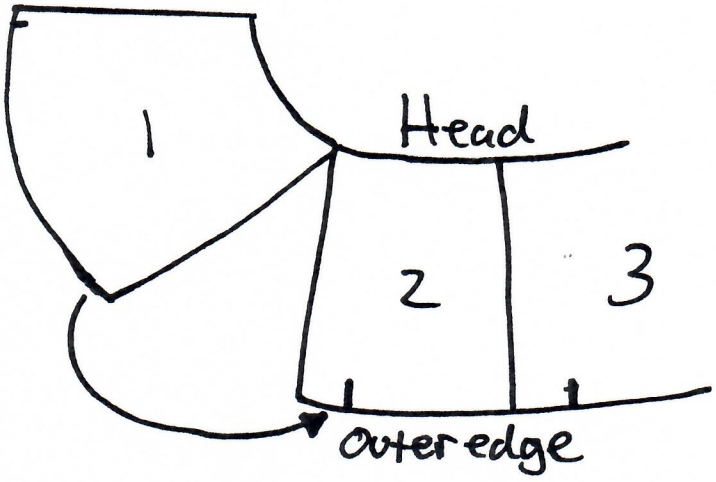
D - On the CB line you are only going to measure in ½ of the measurement you have chosen to eliminate and make a mark. Why? Because the CB line is just ½ of a complete seam that can be cut on fold or with a seam. Do the same thing to the CF line.

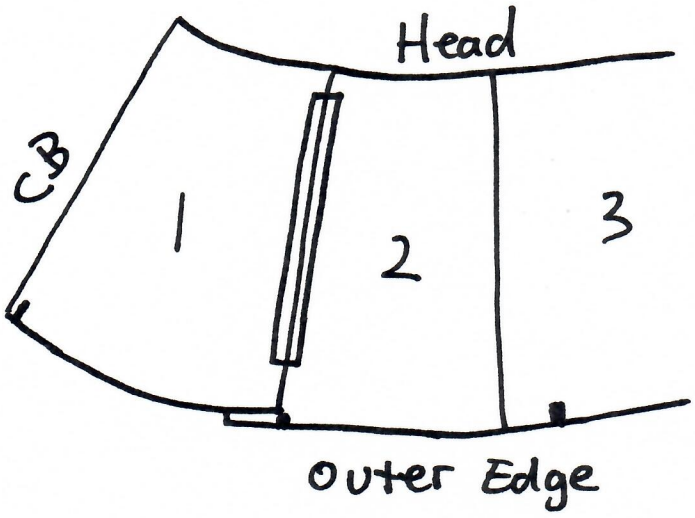



*It may help to do steps 6-7 one fold line at a time*

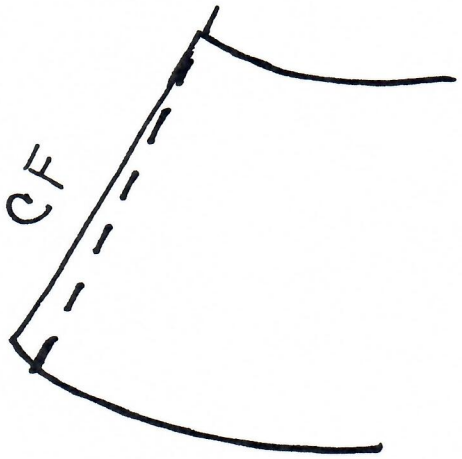
9 – Ignoring the CF and CB lines for now, cut the original fold lines from the outer edge to the headsize line. Be sure not to cut through the headsize line.

10 – Slide the cut fold line to the "excess elimination" mark you made and tape it down. Repeat for remaining fold lines. Your outer edge will have sever jogs that look like stair steps. We will clean up this line in a minute.

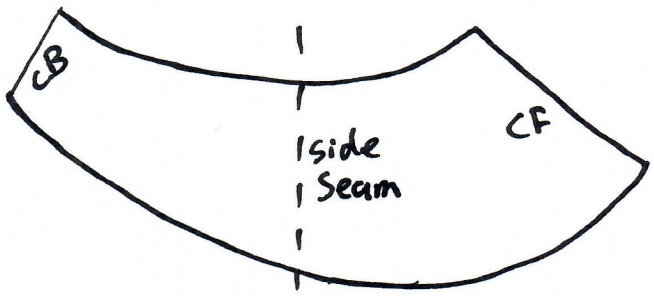



11 – At the CF line, draw a new line from the corner of the headsize line to the "excess elimination" mark. Cut off the small triangle, you just created, on this line. Repeat for CB line.




Your brim should look something like this:




12 – Clean up the outer edge with a smooth line/curve. Your headsize line should be fine, but if you notice a lot of rough corners, clean it up with a smooth curve/line as well.

13 – Add seam allowance and test in muslin against the crown you drafted. CF can be cut on fold or with a seam.

# Brims With Shaped Outer Edges

## Brims With a Shaped Outer Edge

For all brims:

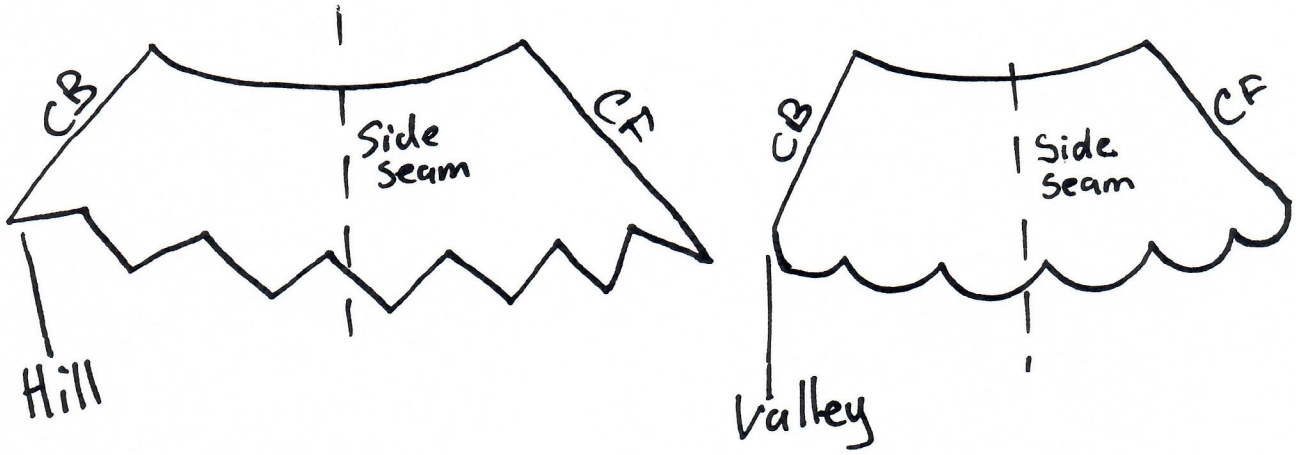
1 - Follow all the necessary steps through developing your slope or flare.

2 - Tape down the entire brim draft to a slightly larger piece of pattern paper.

You can have any shape you want on the outer edge. Points, scallops and organic, asymmetrical blobs are all acceptable.

For points and scallops:

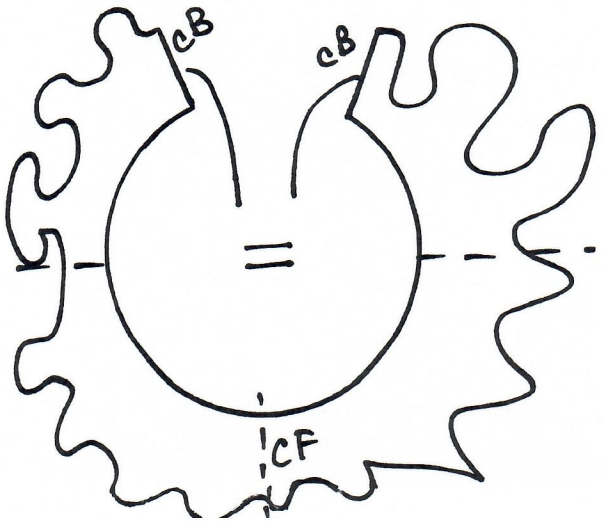
Use the existing fold lines as a gauge for the point/scallop tips. Draw the desired shapes evenly or chaotically. When you get to CF or CB you need to decide what look you want: a hill or a valley. A hill will result in a peak being formed and a valley will result in a recession. Neither is wrong, it's just a matter of choice.




For Asymmetrical Designs:

1 - Make sure you have plenty of paper underneath the draft. Fold the taped down brim at CF and trace the entire brim draft with a stiletto. Open it out and pencil in the trace line. You now have the entire brim as one piece with a seam at CB.

2 – Draw your wacked out outer brim design from CB to CB. At the CB seams, make sure the design measure the same distance from the original brim edge; otherwise, you will have a serious jog that is not fun to sew.




For any shaped outer edge brim design:

Add seam allowance and test in muslin against the crown you drafted.

# Visors

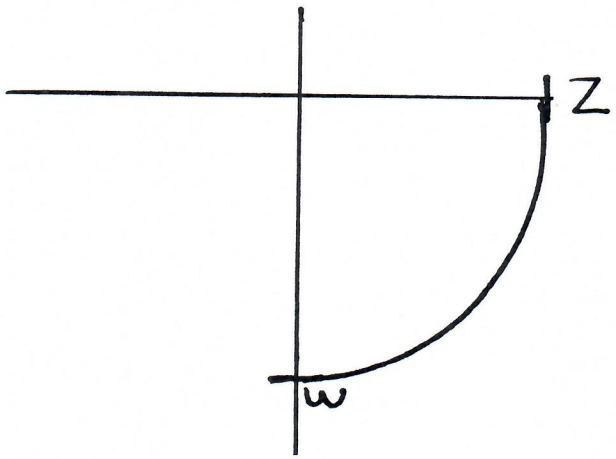
## DRAFTING A BASIC VISOR

This is a simple way to draft a visor that does not involve paper draping on a head block. There are 3 basic types of visors: Flat Arc, Shallow Arc and Deep Arc. Each will result in a different look. You really need to experiment to get the desired results.

For all arcs:
Using the CF of the crown draft as a placement indicator, measure the desired length of the visor on the head size plate line. Typically it is ¼ to 1/3 of the total head size, but feel free to come up with your own measurement.

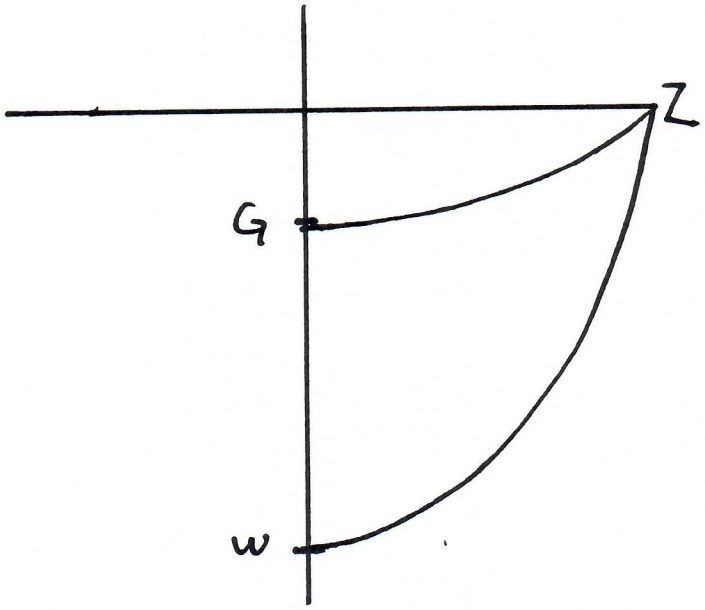
**For a Flat Arc:**

A – Draw a line the desired length of the visor. Label one end "Z".
B – Find the middle of the line and draw a perpendicular line from it. This indicates CF of the draft. This line needs to be a bit longer than your desired width.
C – Make a mark on the CF/perpendicular line at the desired width of your visor and label "W" The width of the visor should not exceed approximately 2 or 3 inches; otherwise, you will run into anatomy issues, but feel free to experiment.
D – Draw a smooth arc from "Z" to "W". Keep the arc at "W" at a 90º angle to avoid a point in the draft.
E – Fold the draft along the CF/perpendicular line and trace the arc with a stiletto. Unfold and pencil in the punched line.
F – Add desired seam allowance and test in muslin.



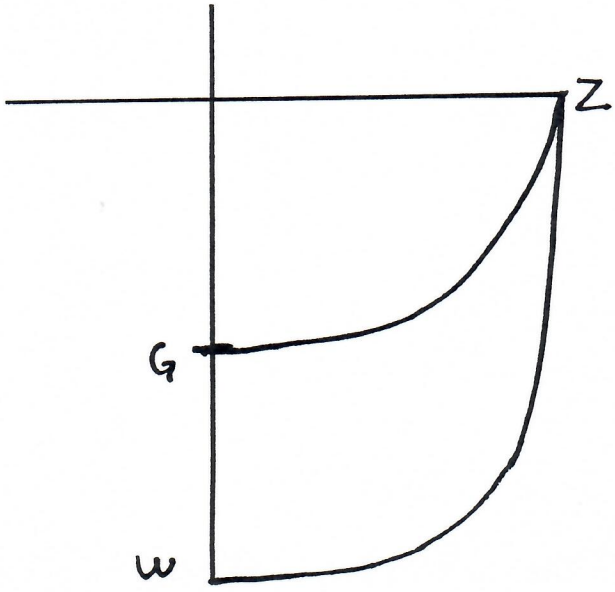
**For a Shallow Arc:**

A - Draw a line the desired length of the visor. Label one end "Z".
B - Find the middle of the line and draw a perpendicular line from it. This indicates CF of the draft. This line needs to be longer than your desired width.
C - Make a mark on the CF/perpendicular line 1/8" to 1" from the "length" line and label "G". This mark indicates the "shallow" arc of the visor. Remember: the smaller the measurement here, the flatter the visor will be against the face.
D – From "G", make a mark on the CF/perpendicular line at the desired width of your visor and label "W". The width of the visor should not exceed approximately 5 or 6 inches; otherwise, you will run into structure issues that will require significant interfacing, but feel free to experiment.
E - Draw a smooth arc from "Z" to "G" keeping the arc at "G" at a 90º angle to avoid a point in the draft. Draw a smooth arc from "Z" to "W" keeping the arc at "W" at a 90º angle to avoid a point in the draft; however, the arc from "Z" to "W" can really be any desired shape. Feel free to experiment.
F – Fold the draft along the CF/perpendicular line and trace both arcs with a stiletto. Unfold and pencil in the punched lines.
G – Add desired seam allowance and test in muslin.




**For a Deep Arc:**

Follow all of the instructions for the Shallow Arc; however, your "G" mark should exceed 1". Be careful though; this arc is tricky to play with. If your overall arc is too deep, the visor will ripple. "Too Deep" could be like 4"...



**Tips**:

- Visors can be moved anywhere along the headsize line of the crown draft. The flat arc can easily be translated into ear flaps.

- 90º angles are very important to maintain at the "G" and "W" intersections. They prevent points from forming on the finished visor. If a point is desired at "W", approach the intersection at an angle other than 90º.

- When testing your visor shape, use a heavier canvas as your "muslin". The canvas is thicker and will give you a more literal look to your final result without having to put on interfacing.

# Simple Hat Construction

# Construction

This section takes a simplistic approach to construction. The tips and tricks presented in this section are in no way, shape or form the final word in making a hat. As always, feel free to experiment and develop your own approach. Even if you are not patterning some of the elements in this booklet, I suggest you read all instructions before you begin to construct your hat.

## Supplies needed to construct a hat:

*Interfacing* – I use two different types of interfacing: knitted fusible and fusible muslin. I prefer the fusible muslin for the body of the hat and the brim. The knitted fusible is ideal for the lining if needed or of your fabric is really thick. If you are making a very large brim, you might need to use a lightweight buckram.

*Fashion Fabric* – anything will work. Just be sure to use the proper interfacing or underlining. When playing with a new hat shape or just starting out, a basic quilting cotton is your best bet. It is light enough to manipulate and sturdy enough to support the shape.

*Underlining* – silk organza or the polyester equivalent. You will use this is your lining needs some body or if the fabric you are using will not take to a fusible interfacing.

*Lining* – I use very thin cotton for summer hats and an acetate/poly taffeta for winter hats. Depending on use, any lining will work. For some heavy winter hats, I have even used cotton flannel.

*Sweatband* – Petersham or matching bias. DO NOT USE POLYESTER GROSGRAIN! - It itches and does not shape. If you cannot get matching petersham then use the bias.

*Thread* – I prefer general sewing thread for hat construction and a heavy weight for sewing on trims.

*Trims* (optional) – you can sew anything you want to your hat!

***Remember, every seam on this hat is another opportunity to design. Try decorative trim, piping, topstitching or bias binding!***

## Basic Order of operations for making a soft construction hat:

Prepare pieces
Construct crown
Construct crown lining
Construct brim/visor
Attach brim/visor
Attach sweatband
Trim

## Prepare the Pieces

- Cut out your piece according to the grain of the pattern or fussy cut them to get the desired effect. For some reason, I always cut the crown lining piece on bias. It really does not affect the fit; it's just something I do. If you are making a 6 section crown, cut 6 of the crown pattern piece.

***The pieces you will generally need for a straight, truncated or inverted crown with brim:***

Fashion Fabric
- 1 – tip
- 1 – crown (if cut on fold at CF) or 2 (if cut with a seam at both CF and CB)
- 2 – brim (if cut on fold at CF) or 4 (if cut with a seam at both CF and CB)

Lining
- 1 – tip
- 1 – crown (if cut on fold at CF) or 2 (if cut with a seam at both CF and CB)

***The pieces you will generally need for a 6 section crown with visor:***

Fashion Fabric
- 6 – crown
- 2 – visor

Lining
- 6 – crown

- Cut out the desired interfacing. You should cut the interfacing in the same direction as the fashion fabric. If you are using the bias of the fashion fabric and you want to stabilize it, cut the interfacing for the piece at the opposite 90º grain.

***The pieces you will generally need for a straight, truncated or inverted crown with brim:***

Interfacing
- 1 – tip
- 1 – crown (if cut on fold at CF) or 2 (if cut with a seam at both CF and CB)
- 2 – brim (if cut on fold at CF) or 4 (if cut with a seam at both CF and CB)

***The pieces you will generally need for a 6 section crown with visor:***

Interfacing
- 6 – crown
- 2 – visor

- If the interfacing is not stabilizing the pieces the way you want; use the necessary underlining. To do this, cut out the underling the same way you cut the fashion fabric. Once the fashion fabric is interfaced, pin the underling to the wrong side of the piece and hand-baste or machine-baste in place along the outer edge, at least 1/8" less than the seam allowance. When the hat is constructed you can leave the basting in or pick it out.

- Transfer all markings. Use a piece of chalk, white wax or colored pencil. Do not use a permanent marker. If you use colored wax, remember, the wax will come out, but the color will remain.

- Apply/fuse the interfacing to the wrong side of all necessary pieces.

- Lay out the pieces on your workspace the order in which they will be sewn.

## Construct the Crown

### For crown with tip:

- Sew the center back seam, right sides together and press the seam open.

- If you have a center front seam, sew it, right sides together and press open.

- Sew, about a hair less than your seam allowance, a stay stitch on the tip edge of the crown.

- Clip to the stay stitch line about every ½" or so.

- Pin on the tip, right sides together, matching CF/CB notches and side notches. The clips will help the flat crown shape to the round tip.

- Once all puckers are excised, sew the two together at the correct seam allowance. Sewing with the tip up is a bit easier.

- Press, as well as you can, without creasing the crown. Topstitch the seam to the crown side if desired.

### For 6 section crown:

- Pin 2 crown sections, right sides together, and stitch. Topstitch if desired. Repeat with remaining 4 sections.

- With right sides together, pin a joined pair together with another joined pair and sew on one seam. Topstitch if desired. Repeat with remaining joined pair completing the crown on both seams.

## Construct Crown Lining

### For crown with tip:

- Follow the instructions for "construct the crown" omitting the topstitching. If you cut your crown lining piece on the bias, you might not have to stay stitch and clip the tip edge because the bias will naturally stretch and conform to the tip.
- Layer the lining and fashion fabric crown, wrong sides together, matching CF/CB and side notches.
- Baste the two raw edges together at ¼".

### For 6 section crown

- Follow the instructions for "construct the crown" omitting the topstitching.
- Layer the lining and fashion fabric crown, wrong sides together, matching CF/CB and side notches.
- Machine baste the two raw edges together at ½".

## Construct Brim

### For Brim:

- Sew the center back seam of one brim piece, right sides together. Press seam open. Repeat for other brim piece. If you have a center front seam, sew right sides together and then press the seam open. Repeat for other brim piece.
- Pin, right sides together, the two brim sections matching center back and center front notches. We'll call them the upper and lower brims.
- Sew along the outer edge at the proper seam allowance. Turn and press the seam flat. Make sure that you press the upper brim so that the lower brim does not show on the seam edge.
- Really press the brim! If you drafted a sloped brim, it will have a slight cup to it. Carefully press a section at a time against the ironing board being careful not to press in a crease.
- If your brim is really large, you might want to stabilize the outer edge with a lightweight wire. To do so, topstitch about ¼" in on the outer edge of the brim. Before you complete the circle, cut the thread about 1 inch from the start of the stitch and remove the brim from the sewing machine. Insert the wire into the channel created by the topstitching and then finish the stitch circle on the machine.

- I recommend that you topstitch concentric circles from the outer edge of the brim to the center. This helps the brim stabilize and will allow you to shape it when worn.

- Sew, about a hair less than your seam allowance, a stay stitch on the headsize edge of the brim.

- Clip to the stay stitch line about every ½" or so.

**For Visor: Construct Visor**

- Pin, right sides together, the two visor sections. We'll call them the upper and lower visors.

- Sew along the outer edge at the proper seam allowance. Turn and press the seam flat. Make sure that you press the upper visor so that the lower visor does not show on the seam edge.

- I recommend that you topstitch concentric circles from the outer edge of the visor to the center. This helps to stabilize the visor.

- If your visor is really large, you might want to stabilize the outer edge with a lightweight wire. To do so, topstitch about ¼" in on the outer edge of the visor from end to end. Insert the wire into the channel created by the topstitching, keeping the ends flush with the raw edges.

- Sew, about a hair less than your seam allowance, a stay stitch on the headsize edge of the visor.

- Clip to the stay stitch line about every ½" or so.

**Attach Brim/Visor**

- **For Brim**: Pin brim to crown – raw edge to raw edge, upper brim to right side of crown, matching center front, center back and side notches.

- **For Visor**: Pin visor to crown – raw edge to raw edge, upper visor to right side of crown, matching center front.

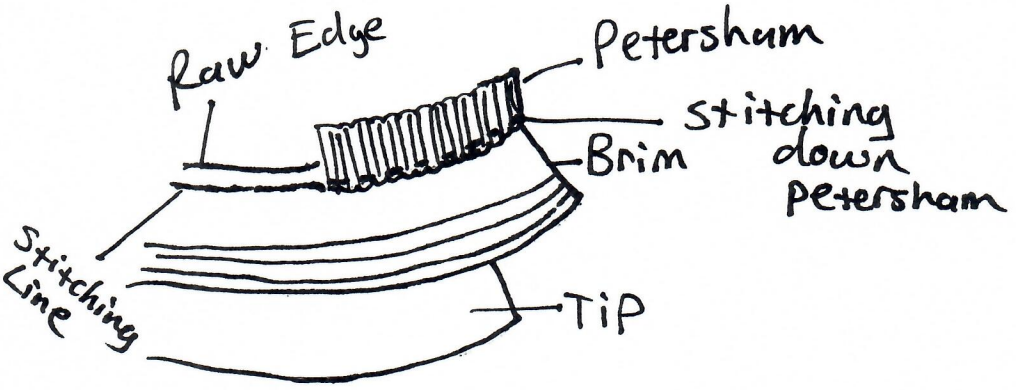
- Sew at required seam allowance. Lightly press seam towards crown.

## Attach sweatband

- Measure the brim/crown seam line of the hat.
- Cut a piece of petersham the length of the brim/crown seam line + 1 inch
- Sew the two ends of the petersham, right sides together, with a ½" seam allowance. Press the seam open.

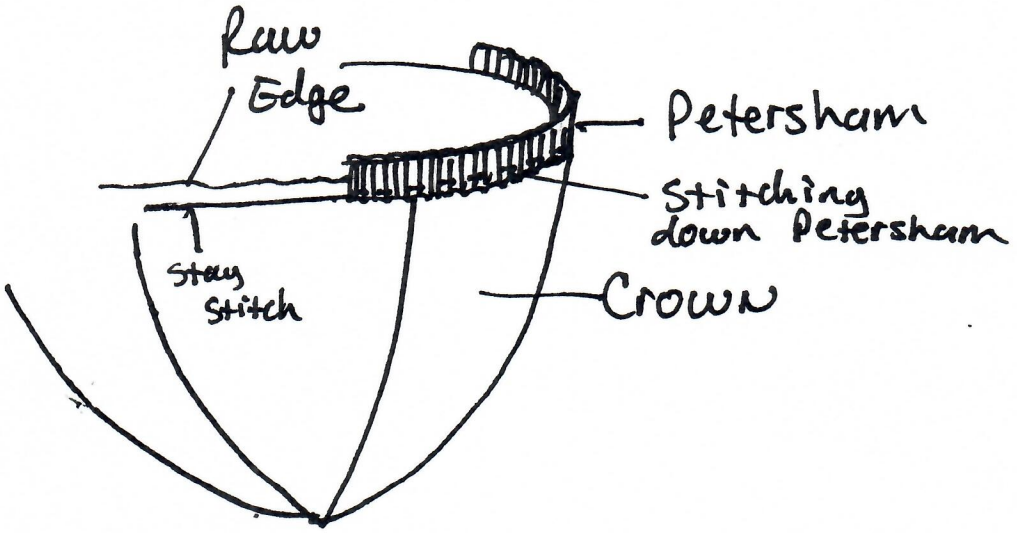
*For crown and brim*

- Pin one edge of the petersham along the stitching line that connects the brim and the crown, with the opposite, loose edge of the petersham extending into the crown.
- Stitch through all thicknesses keeping the crown and the brim free.




*For 6 section crown*

- Pin one edge of the petersham along the ½" baste line, just barely covering the stitch, with the other free edge of the petersham facing away from the crown.
- Sew through of the petersham, along the edge against the crown



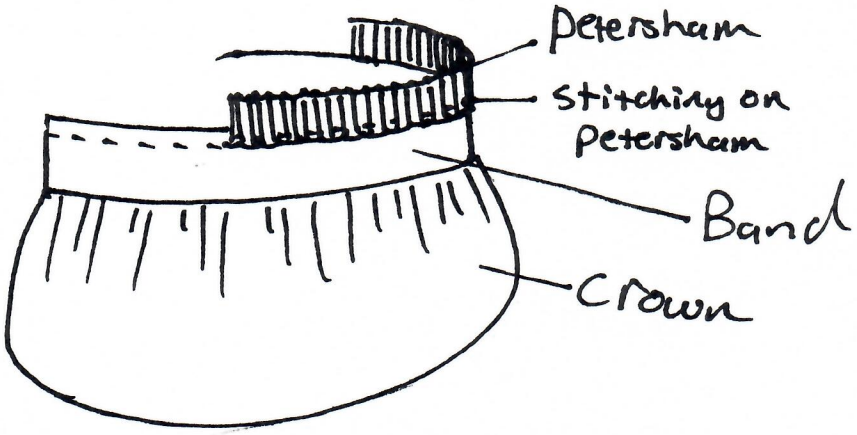

*For all crowns*

- Press the petersham towards the crown, this completes construction.

**For Gathered Beret Crown:**

- Cut one of each from crown pattern:
  - Fashion Fabric
  - Interfacing
  - Lining

- Cut one of each of band pattern
  - Fashion Fabric
  - Heavy weight interfacing
  - Lining




- Apply interfacing to wrong side of fashion fabric crown and fashion fabric band. Transfer all markings.
- Sew CB seam of band, right sides together. Turn and press seam allowance open.
- Layer fashion fabric crown and lining crown wrong sides together
- Machine or hand-baste the outer edge of the crown sandwich. Draw up gathers to fit the band and pin in place (right sides together) matching notches. Adjust gathers as needed.
- Sew CB seam of band lining, right sides together. Turn and press seam allowance open.
- Pin band lining (right side of band lining) to right side of crown lining. You should have a sandwich of fabric with the crown seam in between the two bands
- Sew the crown seam at the required seam allowance.
- Grade seam allowance and press seam flat being careful not to press gathers flat.
- Bring the two raw edges of the bands together, press well and baste raw edges together at required seam allowance.
- Attach crown or visor as desired.
- Sew ½" staystitch along raw edge of band
- Measure band at staystitch and cut a piece of petersham exact measurement + 1 inch.
- Sew the two ends of petersham, right sides together, and press seam open.
- Pin the wrong side of the petersham, to right side of band, at the stay stitching line, barely covering the stitch. Be sure to match the center back seam to the seam on the petersham.
- Sew the edge of the petersham to the band
- Turn up petersham and press well, keeping rest of the hat free. <See Picture>

**For Flat Beret Crown:**

- Cut one of each from tip pattern:
  - Fashion Fabric
  - Interfacing
  - Lining

- Cut one of each from crown pattern:
  - Fashion Fabric
  - Interfacing
  - Lining

- Cut one of each of band pattern
  - Fashion Fabric
  - Heavy weight interfacing
  - Lining

- Staystitch both the crown lining headsize opening and the crown fashion fabric headsize opening at approximately ¼" seam allowance.

- Apply interfacing to wrong side of fashion fabric crown, fashion fabric tip and fashion fabric band. Transfer all markings.

- Sew CB seam of band, right sides together. Turn and press seam allowance open.

- Sew CB seam of band lining, right sides together. Turn and press seam allowance open.

- Sew fashion fabric tip to fashion fabric crown, right sides together, around outer edge. Press seam open as well as you can. Topstitch if desired.

- Repeat for lining, omitting topstitching.

- Layer lining crown/tip with fashion fabric crown/tip, wrong sides together. Machine baste raw edges together at required seam allowance. Clip raw edge to seam allowance every ½ inch or so.

- Pin crown sandwich to band, matching markings, right sides together.

- Pin band lining (right side of band lining) to right side of crown lining. You should have a sandwich of fabric with the crown seam in between the two bands

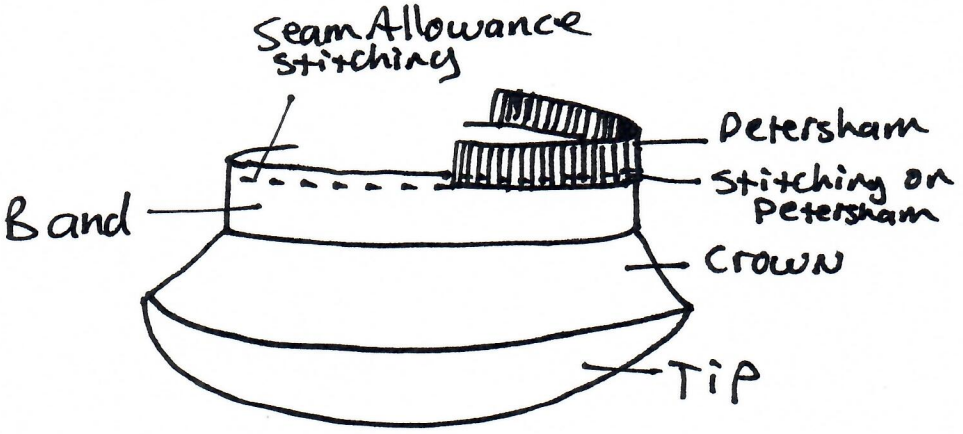
- Sew the crown seam at the required seam allowance.

- Grade seam allowance and press seam flat being careful not to press gathers flat.

- Bring the two raw edges of the bands together, press well and baste raw edges together at required seam allowance.

- Attach crown or visor as desired.

- Sew ½" staystitch along raw edge of band
- Measure band at staystitch and cut a piece of petersham exact measurement + 1 inch.
- Sew the two ends of petersham, right sides together, and press seam open.
- Pin the wrong side of the petersham, to right side of band, at the stay stitching line, barely covering the stitch. Be sure to match the center back seam to the seam on the petersham.
- Sew the edge of the petersham to the band
- Turn up petersham and press well, keeping rest of the hat free.
- Trim hat as desired.



# Trimming Your Design

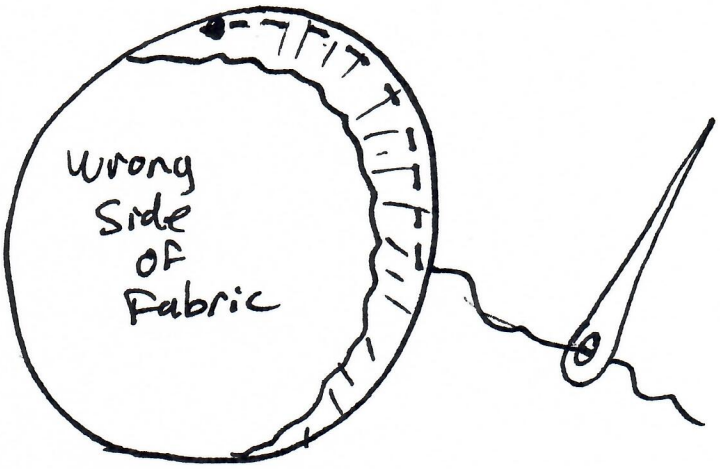
A general knowledge of sewing terms is required to make these trims.

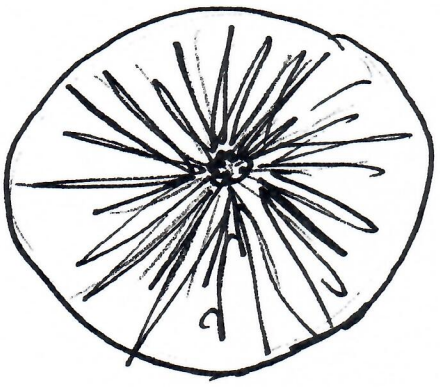
**Trims can really be anything you want. You can create fabric objects that can easily be sewn to the design or purchase ready-made trims at a craft store. The key to personalizing your look is creativity. You can take a very bland design to the next level simply by adding a small flower or brooch. By simply tying a silk scarf to a hat crown or a handle, you can make a world of difference! Listed are a few simple elements that can add a great deal of impact to a design.**

**Yo-Yo**:

This is a ridiculously traditional detail that has had a recent resurgence. They are very easy to make and can be made of virtually any fabric.

1 – cut a circle the desired diameter. The finished yo-yo will be a little less than half of the beginning circle.
2 – knot your thread at one end and hand base the outer edge by turning under a scant ¼" and sewing on the folded edge.
3 – once you get back to the knot, draw up the thread to form a tight cluster. Make sure that the right side of the fabric if facing out.
4 – secure the pulled thread with a knot
5 – sew to desired object

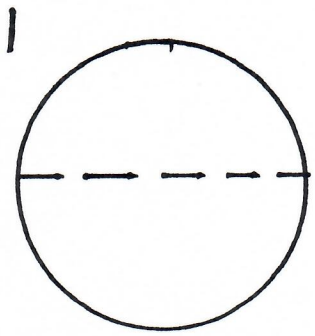


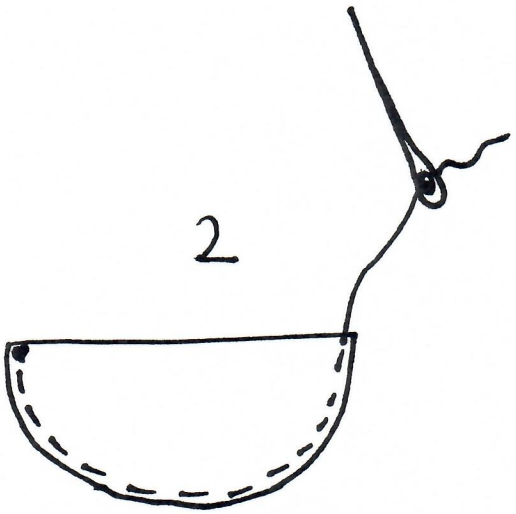



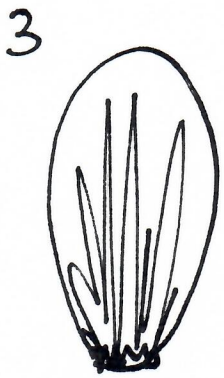
**Fabric flower**:

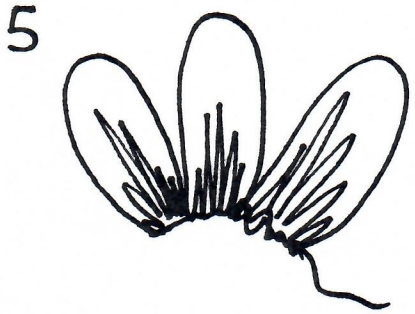
This little fabric flower is very versatile. I can be made in virtually any size and fabric. The smaller the preliminary circle, the smaller the flower will be.

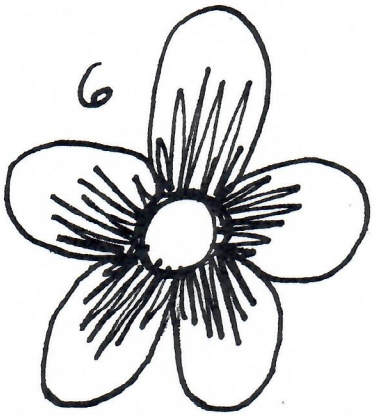
1 – cut out 5 circles of equal measure
2 – fold one circle in half and hand base along raw edge
3 – pull up threads to create a petal shape and secure the tread with a knot.
4 – repeat steps 2-3 for remaining circles
5 – hand sew the petals together side by side at their bases using a bar tack or whip stitch
6 – when you get to the last petal, join it to the first one, creating a circle of petals
7 – fill in the center with a small yo-yo or decorative button. The goal is to cover the raw edges.
8 – sew a pin back to the center of the flower or sew the flower directly to the design.



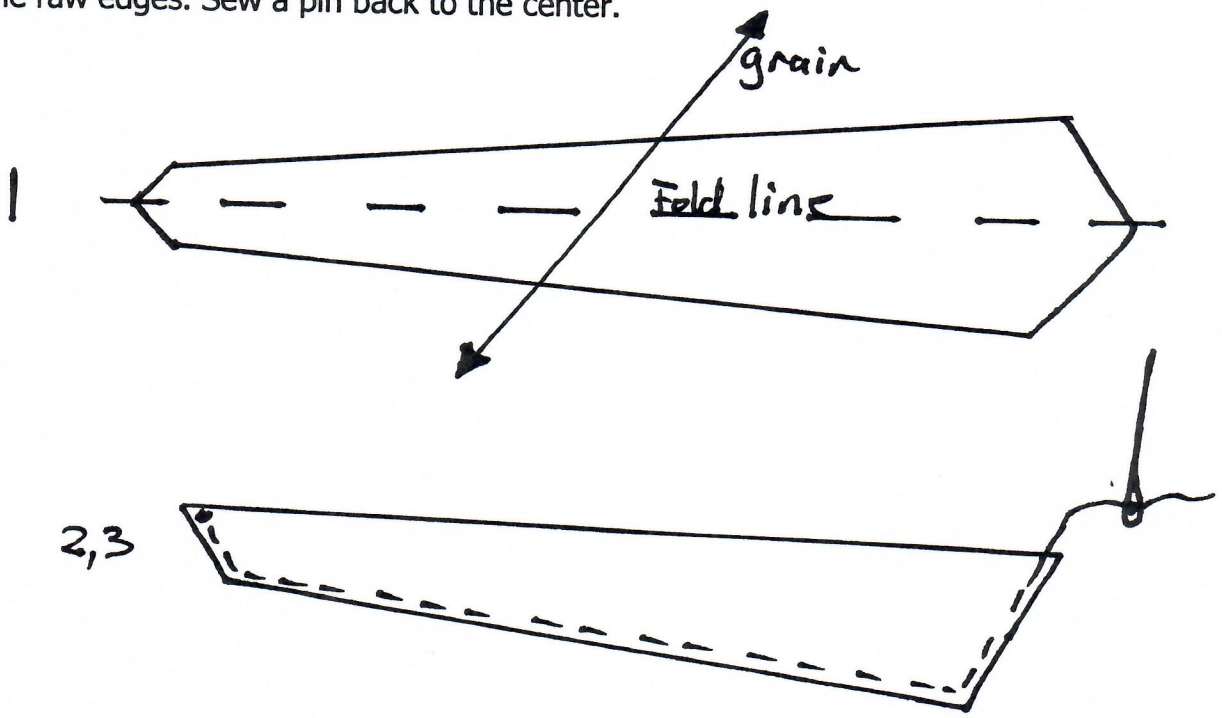



**Gathered rose**:

This flower has many names and is a staple in garment production. Once you understand the basic shape and construction, the possibilities are endless with this design.

1 – following the cutting guide, cut a piece of fabric, on the bias, the length required. For a large flower, the length should be about 36 inches.
2 – fold the piece of fabric as indicated
3 – hand or machine baste the raw edge
4 – draw up the gathers to form a tight ruffle. Depending on how full you want your finished flower, you don't have to draw up the gathers as tightly.
5 – start rolling the flower from the center. The smaller end is the center. As you roll sew the layers together, with a stab stitch, so they don't fall apart when you are finished.
6 – continue rolling and sewing until you reach the end. Secure your thread
7 – fluff out flower as desired and sew directly to hat or bag.
8 – if you want a removable flower, sew a small yo-yo or circle of fabric to the back of the flower to hide the raw edges. Sew a pin back to the center.

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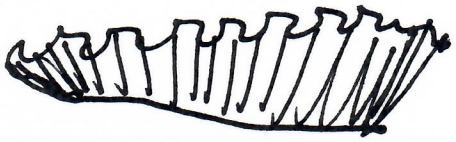

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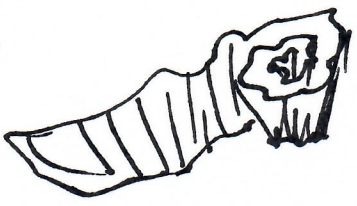


**Flat ruffle**:

Flat ruffles are easy details that add fun and volume to any project. They can be self fabric or contrast. The loose edge of the ruffle can be trimmed, folded and stitched, covered in a rolled hem or if cut on the bias, left raw.

1 – cut a strip of fabric:

the desired width + upper seam allowance + finished edge seam allowance

by

the desired length

(desired length should be at least the finished length multiplied by 1 ½.

The fuller you want the ruffle, the more you multiply by.)

For example: the finished length is 12 inches

You want a slightly full ruffle (finished length x 1 ½)

The desired, finished width of the ruffle is 4 inches

Your upper seam allowance is ½"

You are going to turn under ¼" on the hem, so...

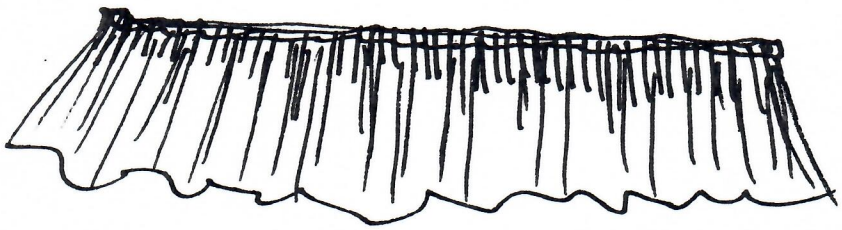
Your strip of fabric will be: 4 ¾" x 18"

2 – if the width of your fabric is not wide enough, cut multiple strips and join them together. Don't forget to finish the seams of the joints with serging or a clean finish.

3 – finish the bottom/hem edge as desired. If you are using a rolled hem, add about a ¼" seam allowance anyway, it will give the serger something to grip and cut off. If the ruffle is to be sewn to the middle of a design, you might need to finish the upper edge of the ruffle too.

4 – hand or machine baste the upper edge and then draw up the gathers to the required length, making sure that the fullness is evenly distributed.

5 – top stitch, along upper edge of ruffle, to required location or baste to seam edge that is to be sewn.



# Fraction Conversions

| | |
|---|---|
| 1/16 = .0625 | 1/8 = .125 |
| 3/16 = .1875 | 1/4 = .25 |
| 5/16 = .3125 | 3/8 = .375 |
| 7/16 = .4375 | 1/2 = .5 |
| 9/16 = .5625 | 5/8 = .625 |
| 11/16 = .6875 | 3/4 = .75 |
| 13/16 = .8125 | 7/8 = .875 |
| 15/16 = .9375 | |