

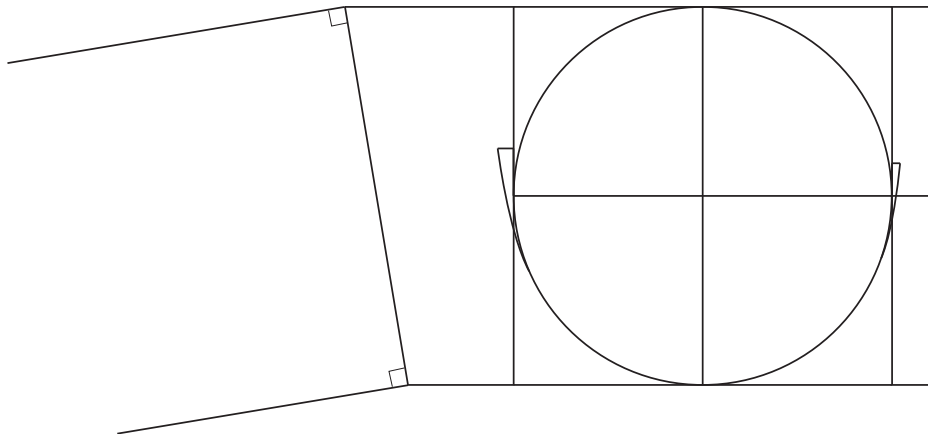
**b.** Because the back also contains a hook & eye and the hook & eye is not part of the back band pattern piece, remove the amount needed for a hook & eye. At the hook's tightest, it is 1" or 2.5cm and at its loosest, it is 2-1/2" or 6.4cm. Because the fit needs to be snug, use the loosest amount, this will help account for fit when the elastics begin to stretch out over time. This draft is for half the body, divide the amount by two, so 2-1/2" would be 1-1/4" (3.2cm would be 2.25cm).

Back Chest Bust – Hook & Eye	
Back Under Bust – Hook & Eye	

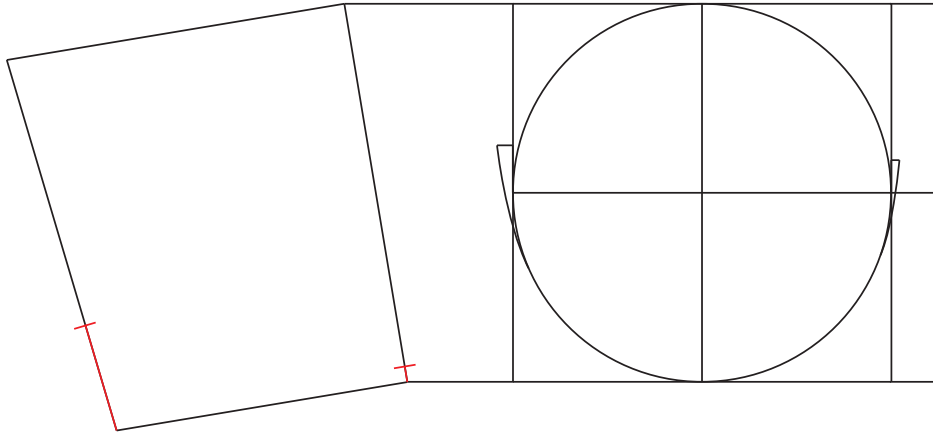
**c.** Because a snug fit is needed, take the stretch of the fabric into account. Using the stretch ratio charts found on page 121, reduce your back measurements based on the stretch of the fabric (.75 for power netting).

Reduced Back Chest	
Reduced Back Under Bust	

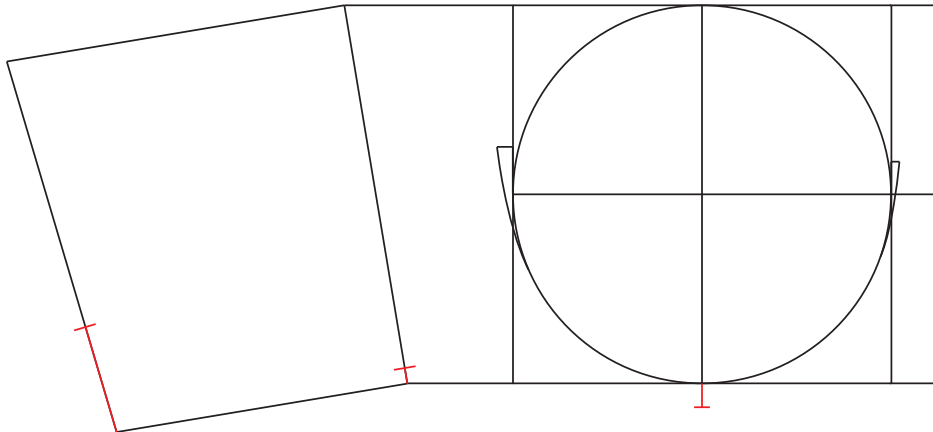
**15.** Continue the back band draft on the front draft. At the new slanted line we created in step 14, square a line across at 90 degrees, the reduced chest measurement and the under bust measurement in their respective positions.



- 18.** Where the front meets the back or the side seam, measure up an amount between  $1/8''$  and  $3/4''$  or .3cm and 1.9cm. This is to help in the shaping of the bra. This amount can be modified to fit your design specifications. For a strapless bra, you may wish to keep this measurement on the smaller side. As pictured, the side was raised by  $1/4''$  or .6cm.

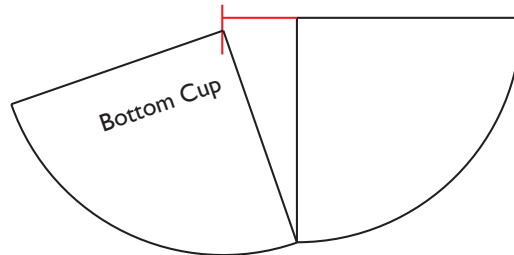


- 19.** At the bottom of the circle, measure down  $1/2''$  or 1.3cm. This too can be modified depending on how much of a band you desire.  $1/2''$  or 1.3cm is the minimum amount of room to stitch down the underwire channeling.



## LOWER CUP

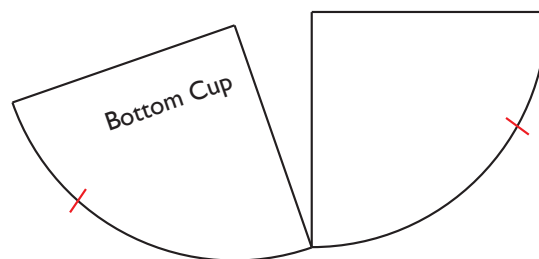
5. Start with the lower cup. Cut down the center towards the lower curve. Do not cut through. Separate the top portion by the distance determined in step 4.a. (for the diameter change).



6. The cup must fit into the circumference of the wire. Refer to page 125, step 1 for the wire diameters used in the band draft. Calculate the circumference of the wire by multiplying the wire diameter by Pi (3.141592). Divide that number by 4, to separate the cup into 4 pieces.

	Left Bust	Right Bust
Wire measurement		
Multiply by 3.141592		
Divide by 4		

7. Take the 1/4 amount from 6 above and measure up the sides of the curve from the center point. Use a flexible ruler to get an accurate measurement.



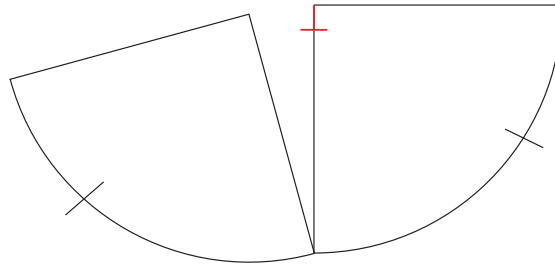
8. Based on the diameter of the bust, use the following chart to determine how much shaping is needed for inner curves of the cup. Below are a variety of percentages you will refer to throughout this chapter. When you test the fit of your custom bras, you may wish to alter these amounts if the breast is not filling the cup thoroughly.

IMPERIAL MEASUREMENTS				
Diameter	2.5% Amount	5% Amount	10% Amount	30% Amount
5	1/8	1/4	1/2	1 1/2
5 1/2	1/8	1/4	9/16	1 5/8
6	1/8	5/16	5/8	1 13/16
6 1/2	3/16	5/16	5/8	1 15/16
7	3/16	3/8	11/16	2 1/8
7 1/2	3/16	3/8	3/4	2 1/4
8	3/16	3/8	13/16	2 3/8
8 1/2	3/16	7/16	7/8	2 9/16
9	1/4	7/16	7/8	2 11/16
9 1/2	1/4	1/2	15/16	2 7/8
10	1/4	1/2	1	3
10 1/2	1/4	1/2	1 1/16	3 1/8
11	1/4	9/16	1 1/8	3 5/16
11 1/2	5/16	9/16	1 1/8	3 7/16
12	5/16	5/8	1 3/16	3 5/8
12 1/2	5/16	5/8	1 1/4	3 3/4
13	5/16	5/8	1 5/16	3 7/8
13 1/3	5/16	11/16	1 3/8	4 1/16
14	3/8	11/16	1 3/8	4 3/16
14 1/2	3/8	3/4	1 7/16	4 3/8
15	3/8	3/4	1 1/2	4 1/2
15 1/2	3/8	3/4	1 9/16	4 5/8
16	3/8	13/16	1 5/8	4 13/16
16 1/2	7/16	13/16	1 5/8	4 15/16
17	7/16	7/8	1 11/16	5 1/8
17 1/2	7/16	7/8	1 3/4	5 1/4
18	7/16	7/8	1 13/16	5 3/8
18 1/2	7/16	15/16	1 7/8	5 9/16

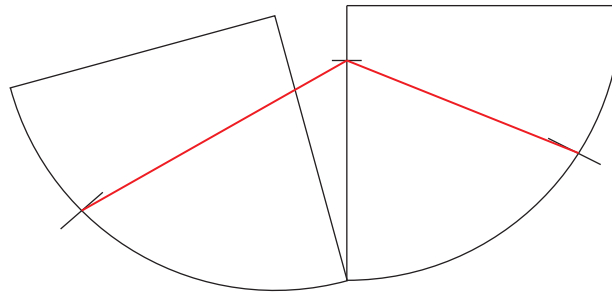
### METRIC MEASUREMENTS

Diameter	2.5% Amount	5% Amount	10% Amount	30% Amount
12.5	0.3	0.6	1.3	3.8
13.75	0.3	0.7	1.4	4.1
15	0.4	0.8	1.5	4.5
16.25	0.4	0.8	1.6	4.9
17.5	0.4	0.9	1.8	5.3
18.75	0.5	0.9	1.9	5.6
20	0.5	1.0	2.0	6.0
21.25	0.5	1.1	2.1	6.4
22.5	0.6	1.1	2.3	6.8
23.75	0.6	1.2	2.4	7.1
25	0.6	1.3	2.5	7.5
26.25	0.7	1.3	2.6	7.9
27.5	0.7	1.4	2.8	8.3
28.75	0.7	1.4	2.9	8.6
30	0.8	1.5	3.0	9.0
31.25	0.8	1.6	3.1	9.4
32.5	0.8	1.6	3.3	9.8
33.75	0.8	1.7	3.4	10.1
35	0.9	1.8	3.5	10.5
36.25	0.9	1.8	3.6	10.9
37.5	0.9	1.9	3.8	11.3
38.75	1.0	1.9	3.9	11.6
40	1.0	2.0	4.0	12.0
41.25	1.0	2.1	4.1	12.4
42.5	1.1	2.1	4.3	12.8
43.75	1.1	2.2	4.4	13.1
45	1.1	2.3	4.5	13.5
46.25	1.2	2.3	4.6	13.9

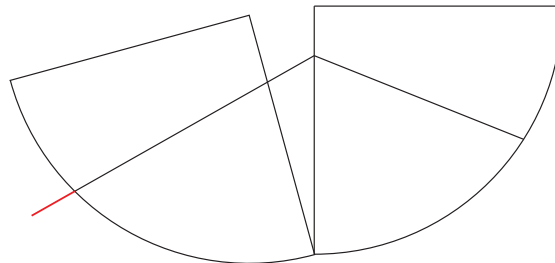
9. On the vertical line on the right side of the cup, measure down 10% of the diameter.



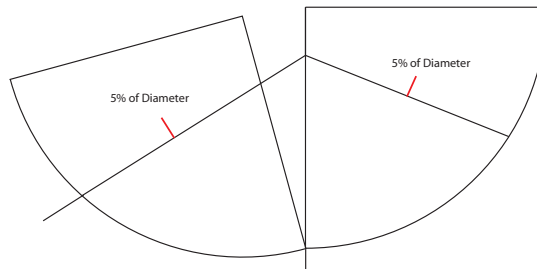
10. Draw a line from this dropped point to the 1/4 diameter points.



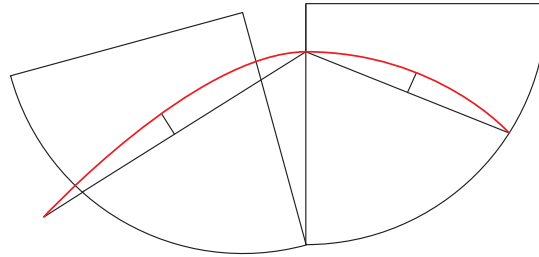
11. On the left side, extend the line out 10% of the diameter. Once you have drawn this line, measure from the far right point to the far left point. This amount should equal the diameter of the bust.



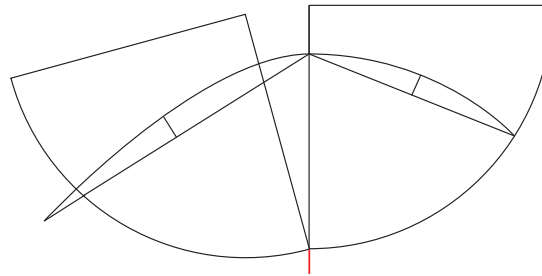
12 a. Find the midpoint on the right line. Measure at a 90 degree angle up 5% of the diameter.  
b. Find the midpoint on the left line. Measure at a 90 degree angle up 5% of the diameter.



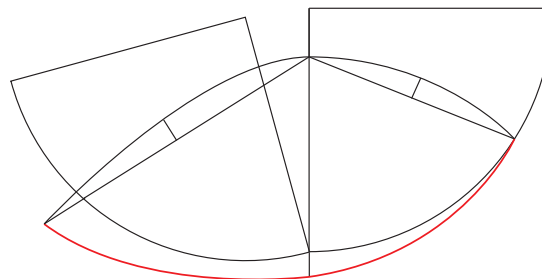
- 13.** Create a smooth curve connecting all points. A smooth and gradual curve is required for a smooth fit.



- 14.** On the center line at the bottom of the cup, extend the line down 5% of the diameter.

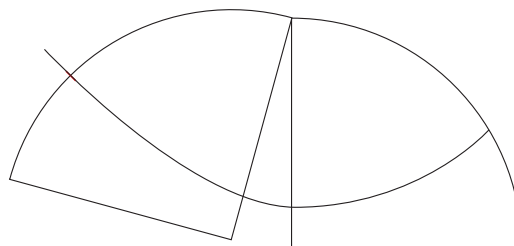


- 15.** Create a smooth curve on the lower portion of the cup connecting each point using your hip curve.

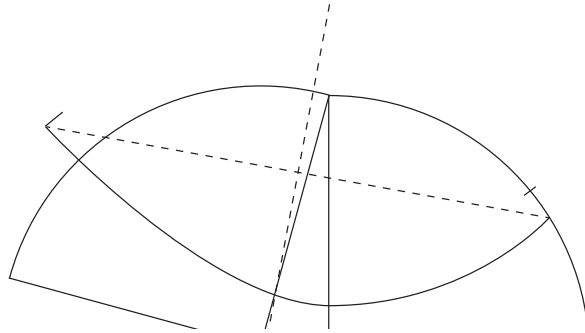


## TOP CUP

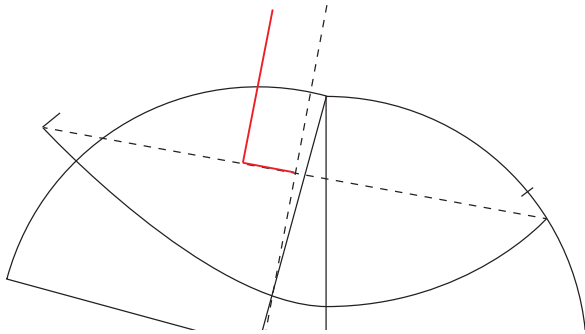
- 16.** Repeat steps 5 through 13 for the top cup. The top cup curve will be identical to the lower cup curve.



**21.** On the upper cup, we need to determine the strap placement. Draw a line from end to end of the lower curve. Find the half way point.



**22.** At the half way point, measure over 10% of the diameter and measure up from that point 30% of the diameter. Make sure to keep all lines at 90 degrees to each other.



**23.** At the top of the strap placement, measure across 1/2" or 1.25cm (or the size strap you choose to use). Use the hip curve to shape the underarm in a fairly deep curve and shape the neckline with a mild curve from the center to the strap. Both of these lines can vary depending on your design specifications.

