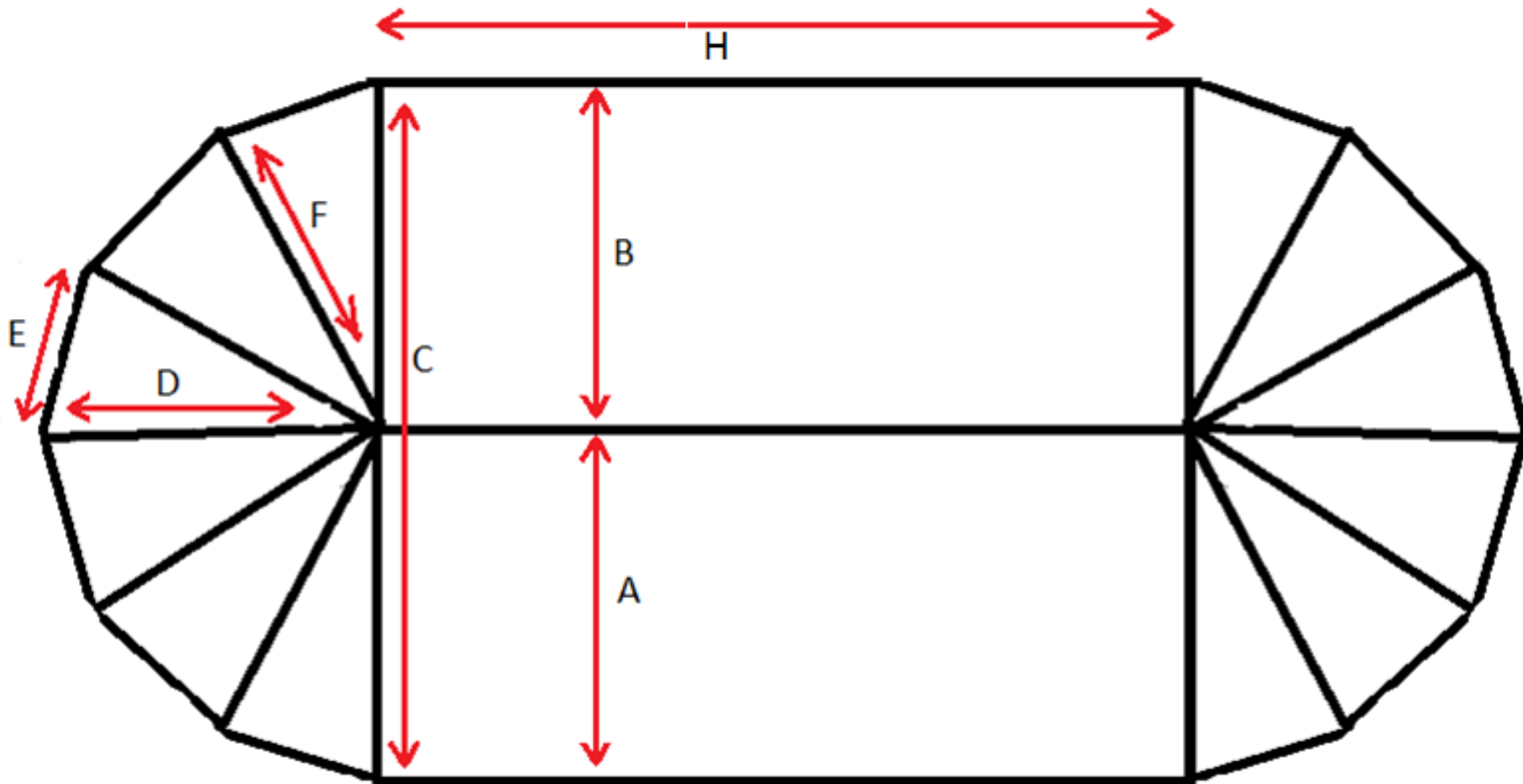# Tent design and calculations
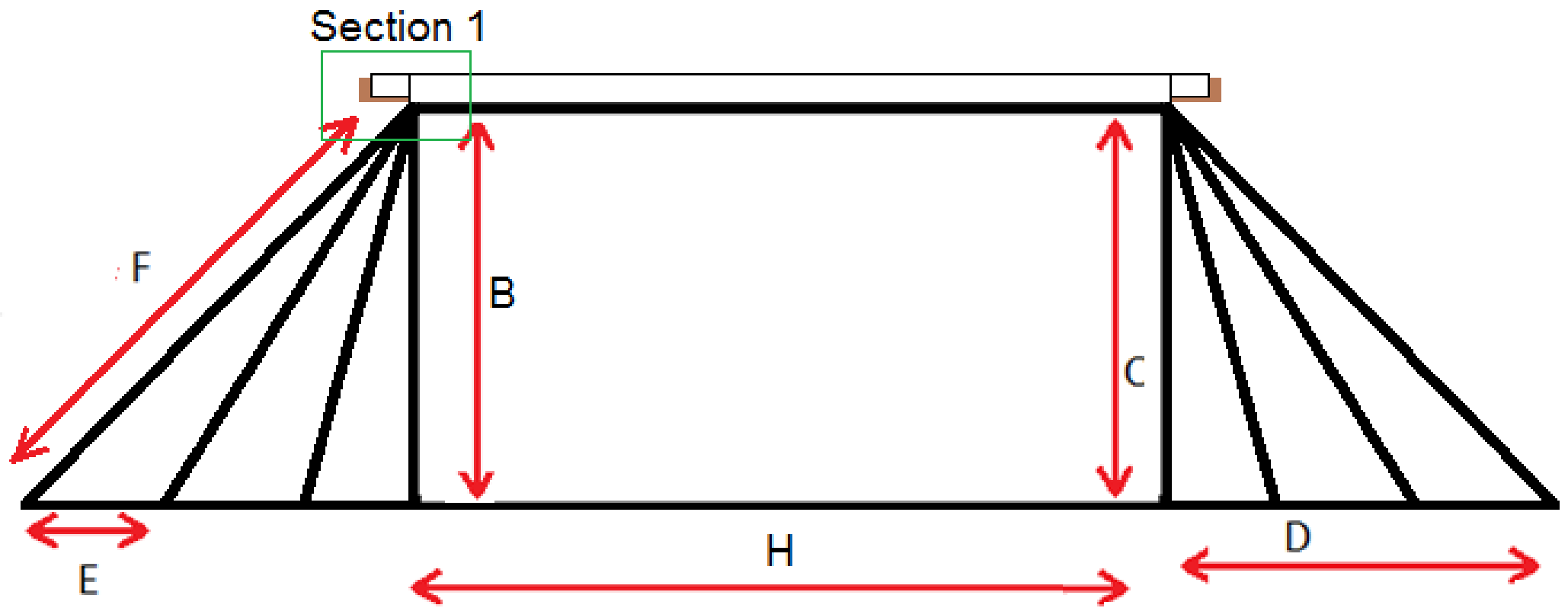
Model and ratios

Units of measurement on the model were in Inches and are the units on the Diagram below. However, they may be used as Ratios in order to determine measurements for other tents. For example, if the size of Measurement x is known it will be possible to work out all other values based on the diagram below.
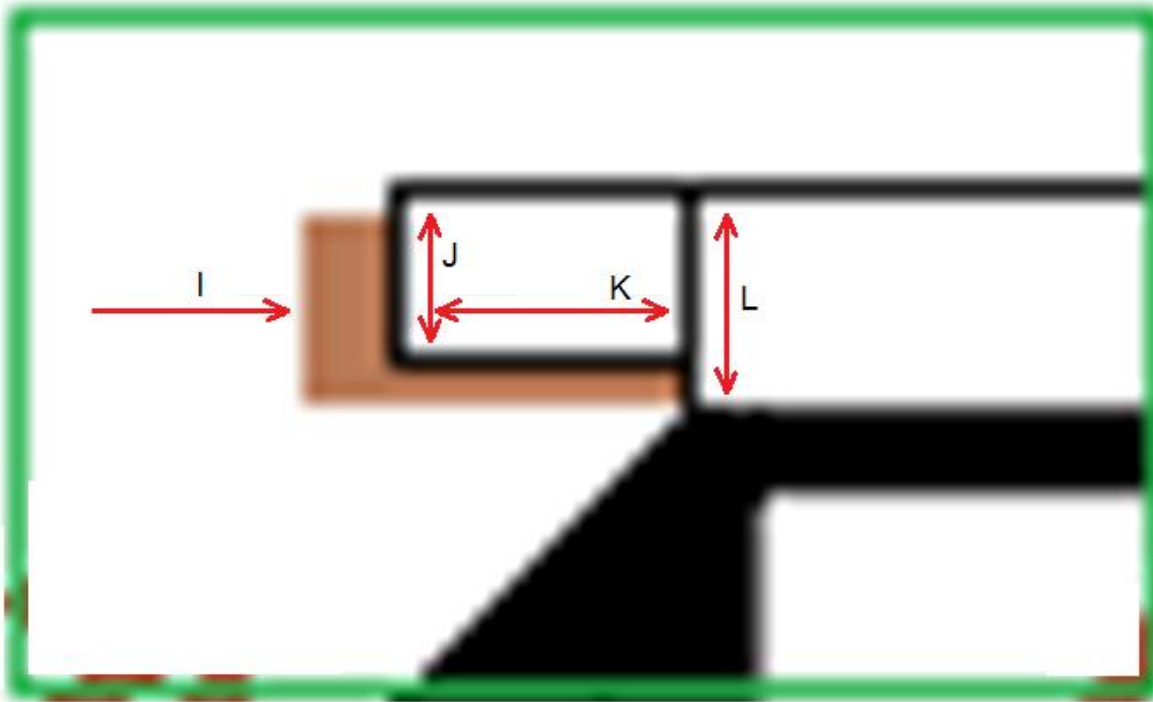
Top down view of tent

Side On View of Tent

Enlargement of Section 1

A = Internal Floor width 4 1/8

B = Internal Height 3.5

C = Face length 4

D= Bell Length 2

E = Bell triangle base 1

F = Bell triangle side length 4

G = Height of Bell Triangle

H = Side length as needed

Following Measurements are not Ratios

I = Tent ridge Pole = G + 20 inches

J = tent pole cover length 10 inches

K = tent pole cover width 8 inches

L = tent pole sleeve 10 inches

<u>The Real Tent</u>

Therefore, for a tent that is 8 feet high the calculations and values would be as follows (to 3 decimal places)

<u>Ratio Calculations</u>	<u>Actual measurements in decimal feet before seam allowance</u>
8/3.5=2.286 2.286 X 4 1/8 = A 2.286 X 3.5 = B 2.286 X 4 = C 2.286 X 2 = D 2.286 X = 1 E 2.286 X 4 = F 2.286 X ? = G	A = 9.429 Df B = 8 Df C = 9.143 Df + K = 9.809 Df D = 4.571 Df E = 2.286 Df F = 9.143 Df G = 9.071 Df H = As required for desired tent length I = Tent ridge Pole = G + 1.666 Df J = tent pole cover length 0.833 Df K = tent pole cover width 0.666 Df L =tent pole sleeve 0.833 Df
<u>In Fractional Feet and Inches</u> A = 9 foot, 5 5/32 inches B = 8 foot C = 9 foot, 1 23/32 inches + K =9 foot, 9 23/32 inches	<u>Actual measurements in Fractional Feet after seam allowance and rounded for ease of measurement</u> • Add 2 inches to measurements A-F for seam allowance

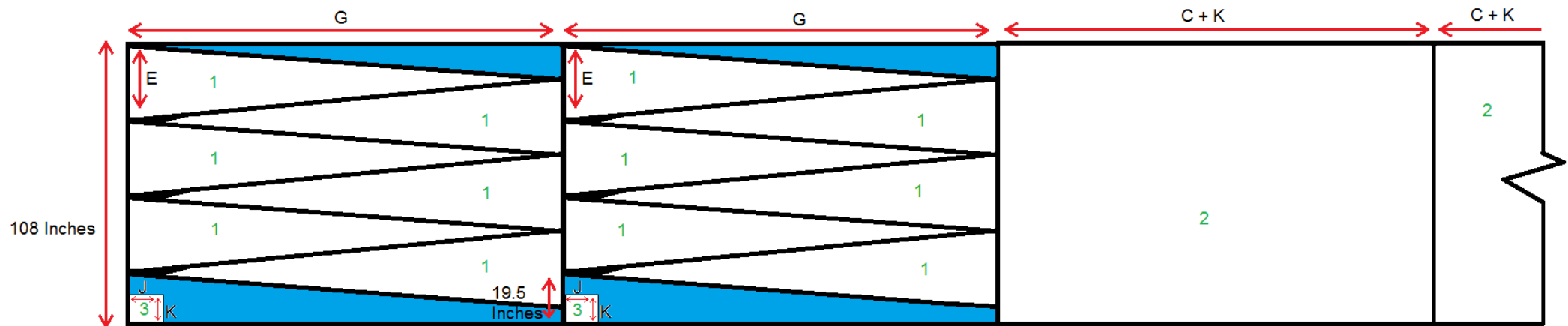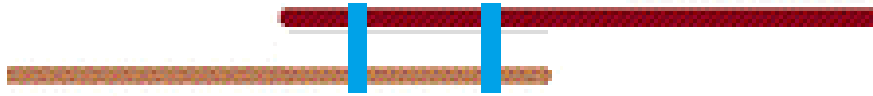|	
D = 4 foot, 6 27/32 Inches E = 2 foot, 3 7/16 Inches F = 9 foot, 1 23/32 inches G = 9 foot 0 27/32 inches H = As required for desired tent length I = Tent ridge Pole = G + 20 inches J = tent pole cover length 10 inches K = tent pole cover width 8 inches L = tent pole sleeve 10 inches	• Add 1 inch to measurements J +k for seam allowance A = 9 foot, 7 5/32 inches B = 8 foot 2 inches C = 9 foot, 3 7/8 inches + K = 9 foot, 11 7/8 inches D = 4 foot, 8 7/8 Inches E = 2 foot, 5 1/2 Inches F = 9 foot, 1 7/8 inches G = 9 foot , 2 7/8 Inches H = As required for desired tent length I =Tent ridge Pole = G + 20 inches J = tent pole cover length 11 inches K = tent pole cover width 9 inches L =tent pole sleeve 10 inches

1 ft =30.48cm

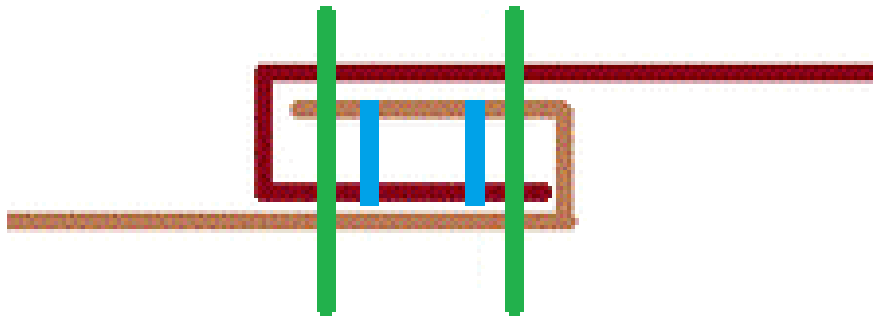Instructions for Sewing Tent

Laying Out Of Fabric Diagram

Seam instructions

1.

2.

1. Sew double row of stitching
2. Fold over so that all edges of fabric are contained within seam and sew another double row of stitching
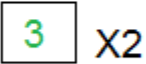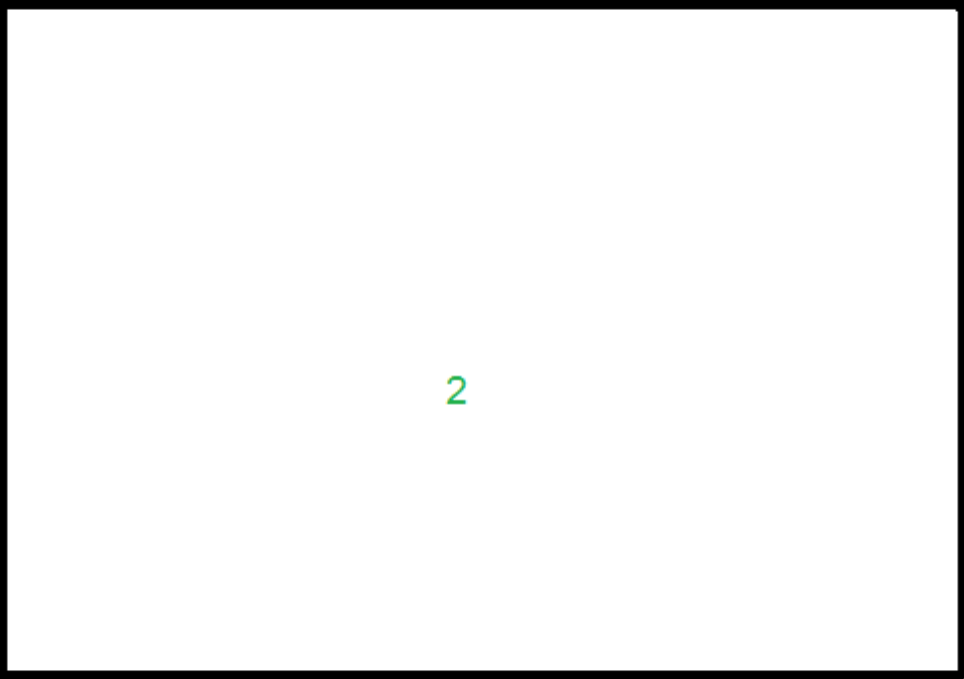
Hem Instructions

1.

2.

1. Fold and sew.
2. Fold over so that all edges of fabric are contained within seam and sew double row of stitching.

X6

1

2

3 X2

X As required for
desired tent length

Diagram of how parts are sewn together

1

1

1

1

1

1

Sew dotted lines together to form the Ridge Pole pocket. BUTREMEBER TO LEAVE GAPS TO GET THE VERTICAL POLES INTO THE SOCKETS IN THE RIDGE POLE!

3

3

Sew together at one end

2

2

2

1

1

1

1

1

1

1

1