MARYJANESFARM®

Homemade Tent

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Canvas Body

YOU'LL NEED:

58 yds 58″–60″ Sunforger cotton marine canvas (Preshrink by laying in driveway when sun in out and spraying with hose. Dry completely in hot sun.
1 large cone of upholstery thread or 16 oz spool of Ultra Dee bonded polyester thread by Coats (DB92, Tex90, white, SOAC 603304)
6′ 1/2″ wood dowel
22′ 1/8″ nylon rope (see Resources)
16′ 1″-wide cotton/belt webbing
1 1-1/2″ inner diameter brass welded ring
Industrial-strength sewing machine with walking foot
Height compensation tool (see Resources)
Basic sewing supplies
Size 125/20 machine needles
Drill
3/16″ drill bit
Hand saw or chop saw
Sandpaper
Chalk line and chalk; or one 12′ stair nose molding (see Resources), two 6′ steel straight edge, duct tape, and Sharpie
Newsprint (see Resources)
Carpenter's square
6″ ruler
Yardstick
Measuring tape
Large, clean, smooth floor space. A VCT (vinyl composition tile) floor with 12″ tiles works great!

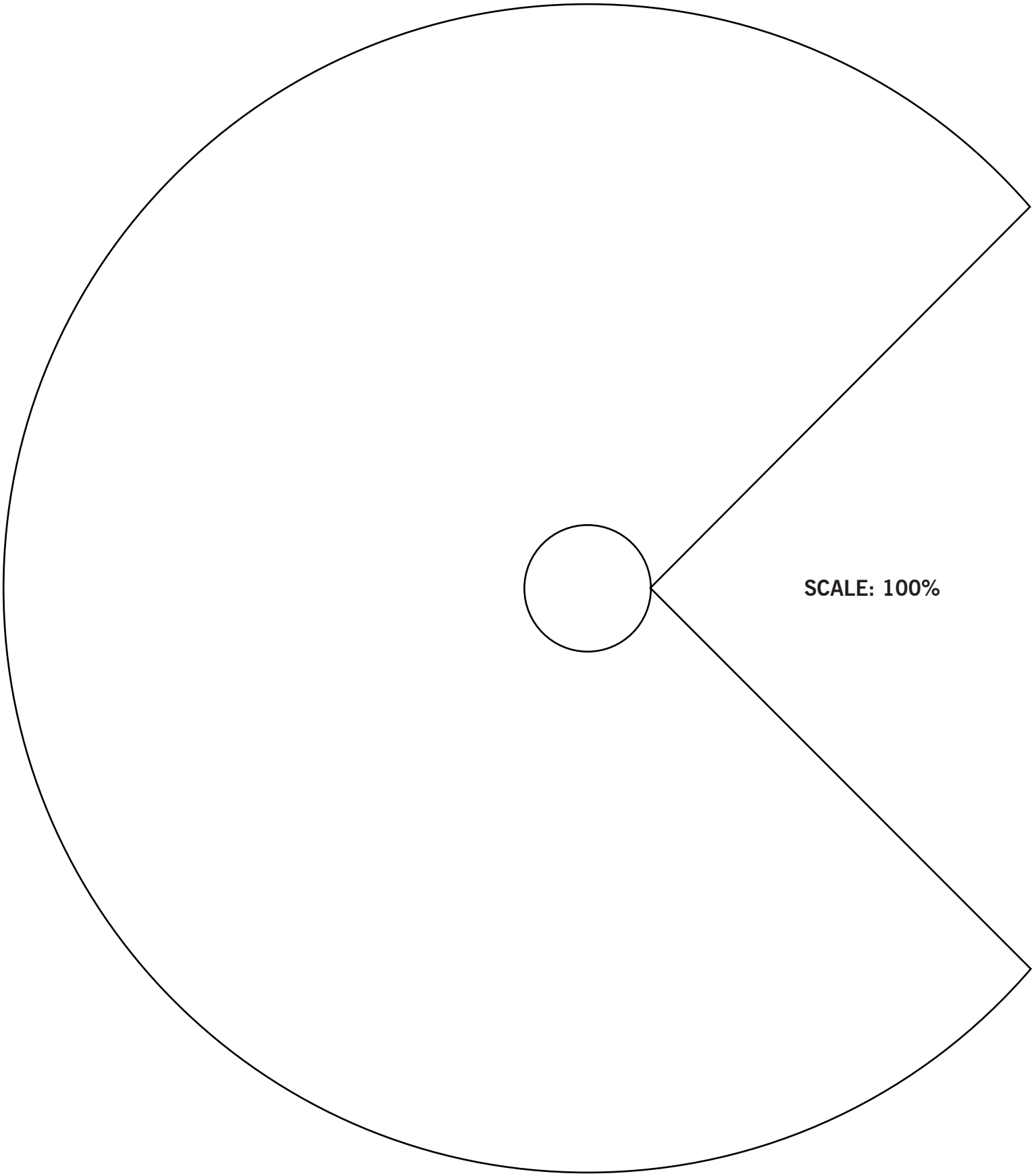
OPTIONAL BUT HELPFUL:

Rotary cutter, mat, and ruler; folding tables; bobbin saver; magnetic seam guide; knee pads.

CUTTING:

Tent body:	Cut eleven wall sections (diagram A). Cut two door sections (diagram B). (If fabric has a right and wrong side, flip one pattern piece over.) Cut twelve roof sections (diagram C; pattern consists of two sections laid out side by side).
Receiver loops:	Cut twenty 2″ x 9″ strips.
Toggle ties:	Cut twenty 2″ x 7 1/2″ strips.
Door ties:	Cut four 48″ lengths of 1″ wide cotton/belt webbing.
Stake loops:	Cut twelve 2″ x 12″ strips.
Spoke pockets:	Cut twelve.
Canvas cones:	Cut two.
1/8″ rope:	Cut twenty 11″ lengths.

CANVAS CONE



SCALE: 100%

SPOKE POCKET

SCALE: 100%

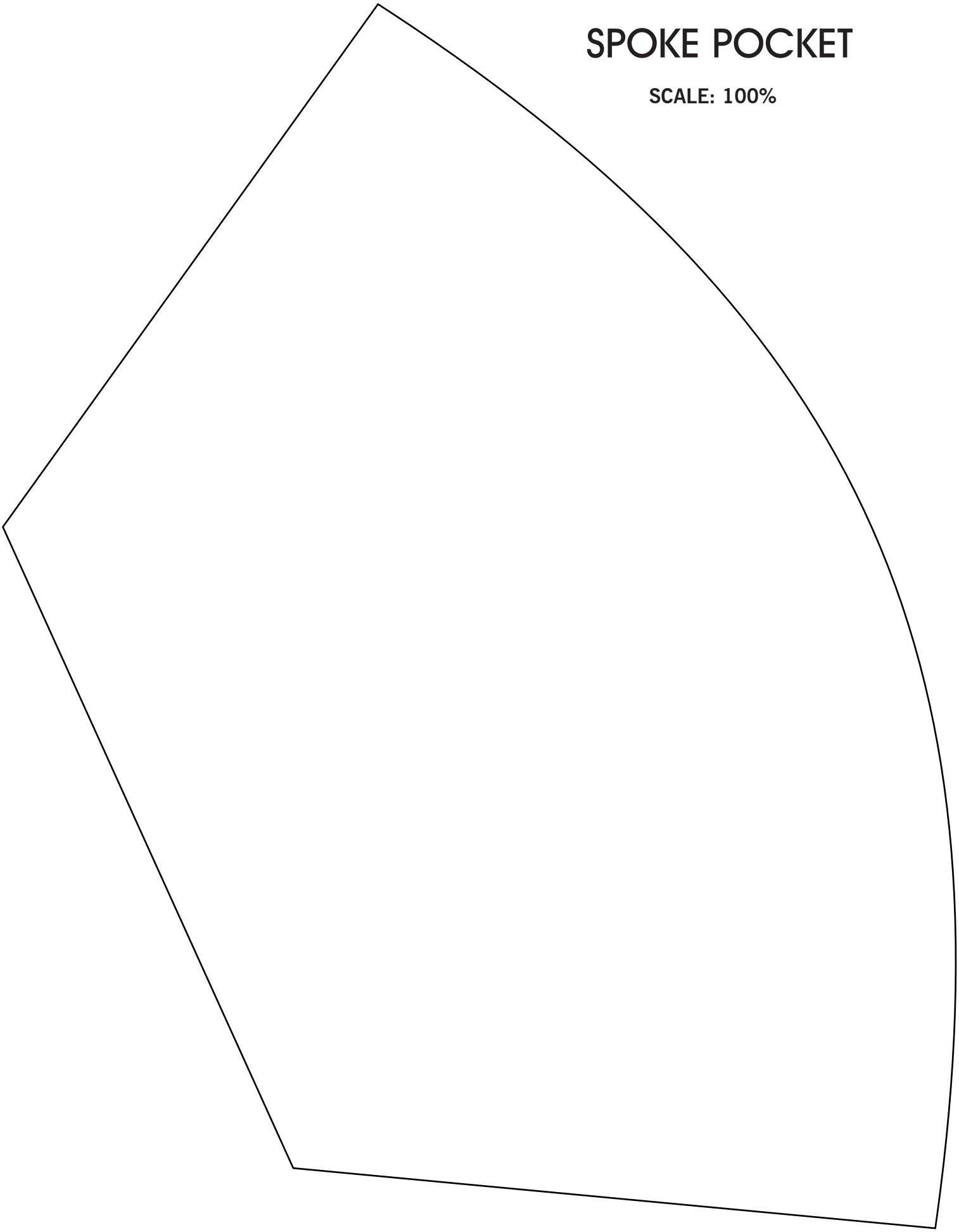


DIAGRAM A
WALL SECTION

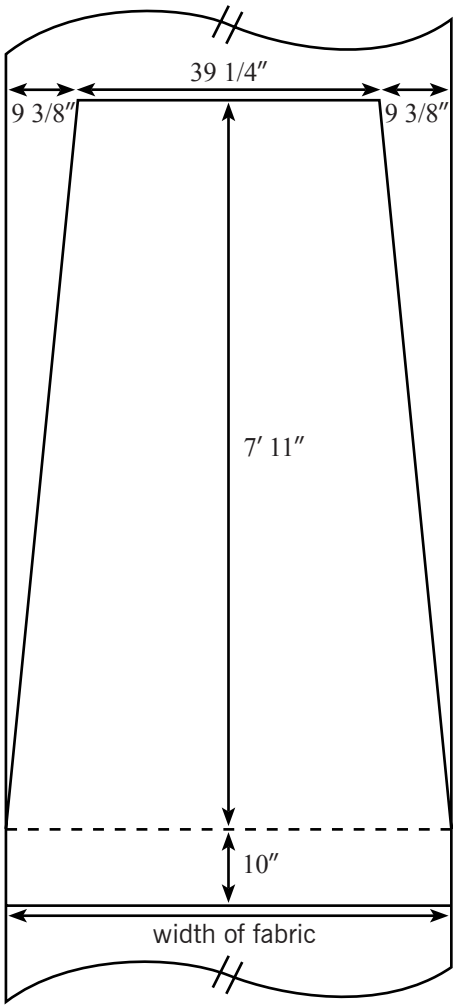


DIAGRAM B
DOOR SECTION

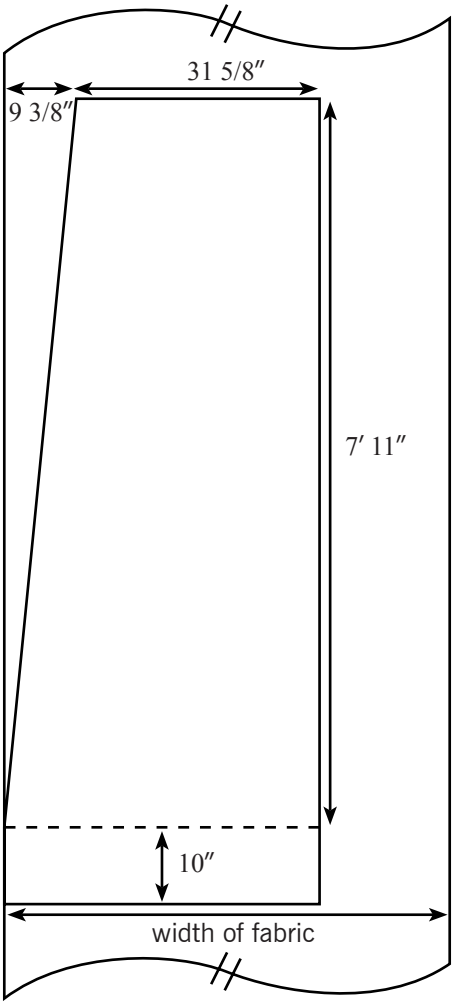
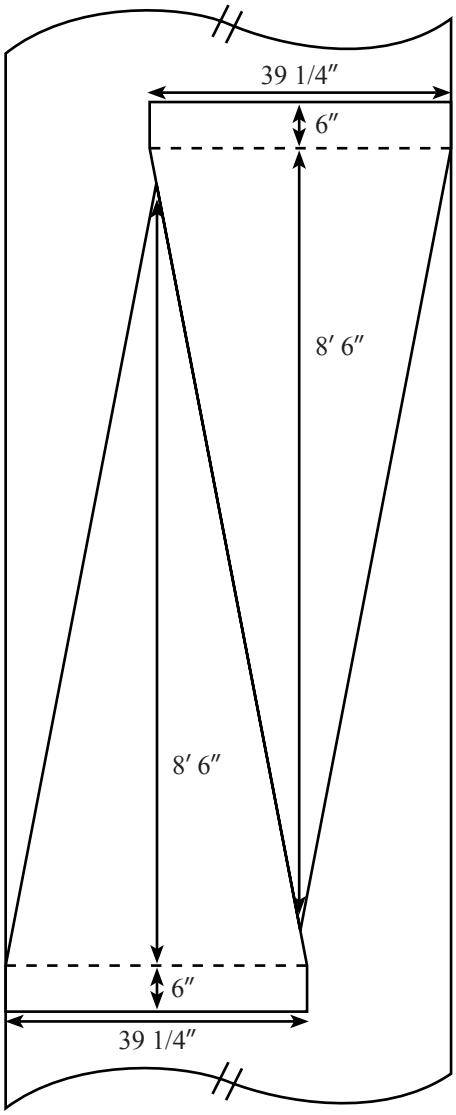


DIAGRAM C
ROOF SECTION



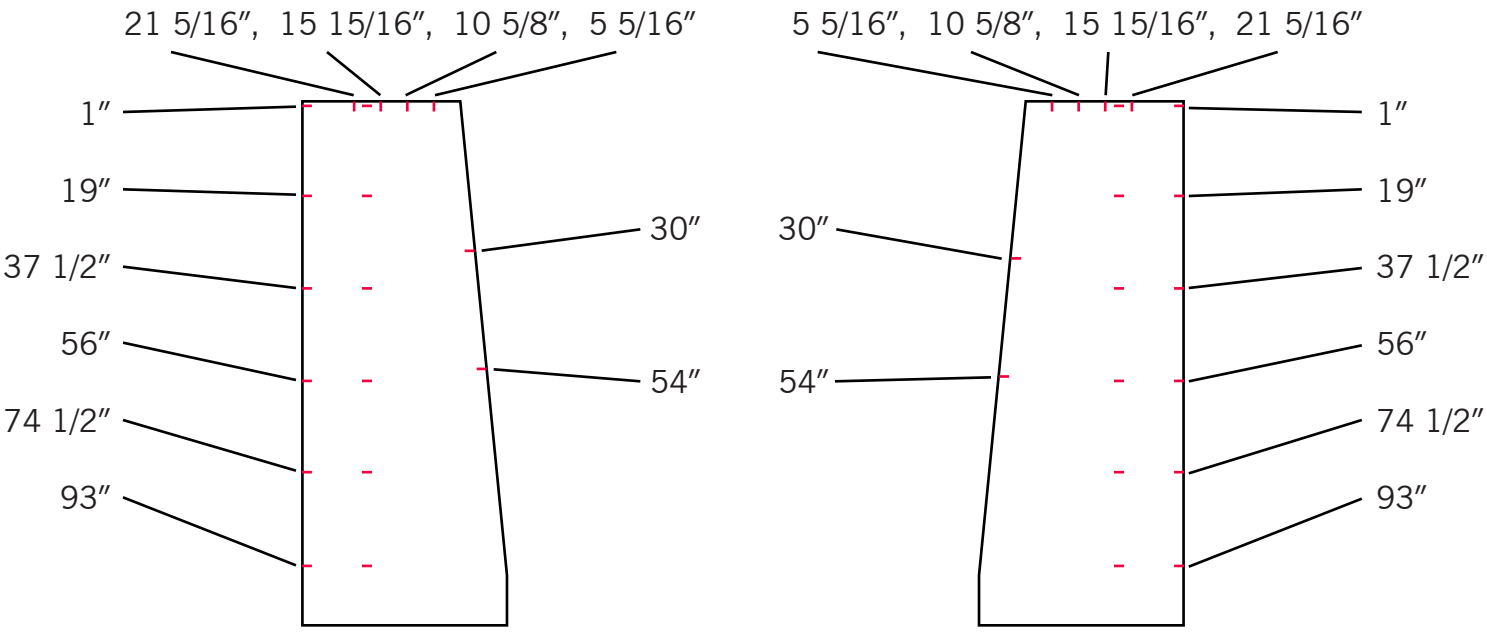
ORGANIZING A WORK AREA:
It is important that you have a large clean, smooth floor space to work in. Make sure you have access to your work space for the amount of time it will take you to construct your tent. Once you start your tent, it will keep growing in size and weight — it's not that easy to just pack it up. You'll want to leave this project out until it's finished. (VCT flooring, as mentioned on p. 1, gives you a handy cutting surface without having to do the math every time you cut a section of the tent.)

CUTTING:
You have a choice for measuring and marking your pattern pieces — you can choose to do it alone or with another person, using a chalk line to mark the pieces, and measuring each piece over and over. If you are working alone, use a 12′ piece of stair nose molding (make sure it's super straight), two 6′ steel straight edges, and duct tape. Both methods are described below.

METHOD A: WORKING WITH ANOTHER PERSON
Wall Sections
1. Unroll enough canvas for one wall section at a time. Using the carpenter's square and a yardstick, check to see if the canvas is square. If it isn't, stretch the canvas diagonally before starting to measure and mark each piece.
2. Refer to the cutting layout diagram for exact measurements. Use the measuring tape, carpenter's square, and pencil to measure and mark the length and designated points on each wall section. Your bottom width should be the entire width of the canvas. The width may vary between 58″–60″ depending on the manufacturer (this will not affect construction of the tent). Measure each piece two or three times.
3. Use a pencil to mark the top flap line on each wall section (10″ up from bottom).
4. Use the chalk line to mark the "cut" lines, beginning at the top flap line and ending at the designated points.
5. Cut each wall section one at a time.

Door Sections
1. Unroll enough canvas for one door section at a time. Using the carpenter's square and a yardstick, square the canvas end before starting to measure and mark each piece.
2. Refer to the cutting layout diagram for exact measurements. Use the measuring tape, carpenter's square, and pencil to measure and mark the length and designated points on each door section. Remember to flip the door pattern over when creating the second, mirror-image panel.
3. Use a pencil to mark the top flap line on each door section (10″ up from bottom).
4. Use the chalk line to mark the "cut" lines, beginning at the top flap line and ending at the designated points.
5. Cut each door section one at a time.
6. On the door sections, mark with a pencil the placement for the toggle ties. Make marks on the inside, 1″ down from top edge, from angled edge to straight edge, at the following increments:
5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″. See figure A.
7. On the door sections, mark with a pencil the placement for the toggle ties and receiver loops. One door section will have the marks on the inside, and the other door will have the marks on the outside. Make marks, from top edge to bottom edge, 1″ and 12″ in from the straight side edge at the following increments:
1″, 19″, 37 1/2″, 56″, 74 1/2″, and 93″. See figure A.
8. Mark with a pencil the placement for the door ties (cotton/belt webbing) from the top edge downward on the angled side edge at the following increments: 30″ and 54″. See figure A.

Figure A



Roof Sections (Cut a total of 12: 2 per panel)

*You will be cutting 2 roof panels from each section of canvas.

1. Unroll enough canvas for two roof sections at a time. Using the carpenter's square and a yardstick, square the canvas end before starting to measure and mark each piece.
2. Refer to the cutting layout diagram for exact measurements. Use the measuring tape, carpenter's square, and pencil to measure and mark the length and designated points on each roof section.
3. Use a pencil to mark the top flap line on each roof section (6″ up from bottom).
4. Use the chalk line to mark the "cut" lines, beginning at the top flap line and ending at the designated points.
5. Cut out each roof section one at a time.
6. On one roof inside section, mark with a pencil the placement for the doors' receiver loops. Make marks 1″ up from bottom edge at the following increments: from left to right 5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″ and right to left 5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″ (for a total of 8 marks). See figure B.

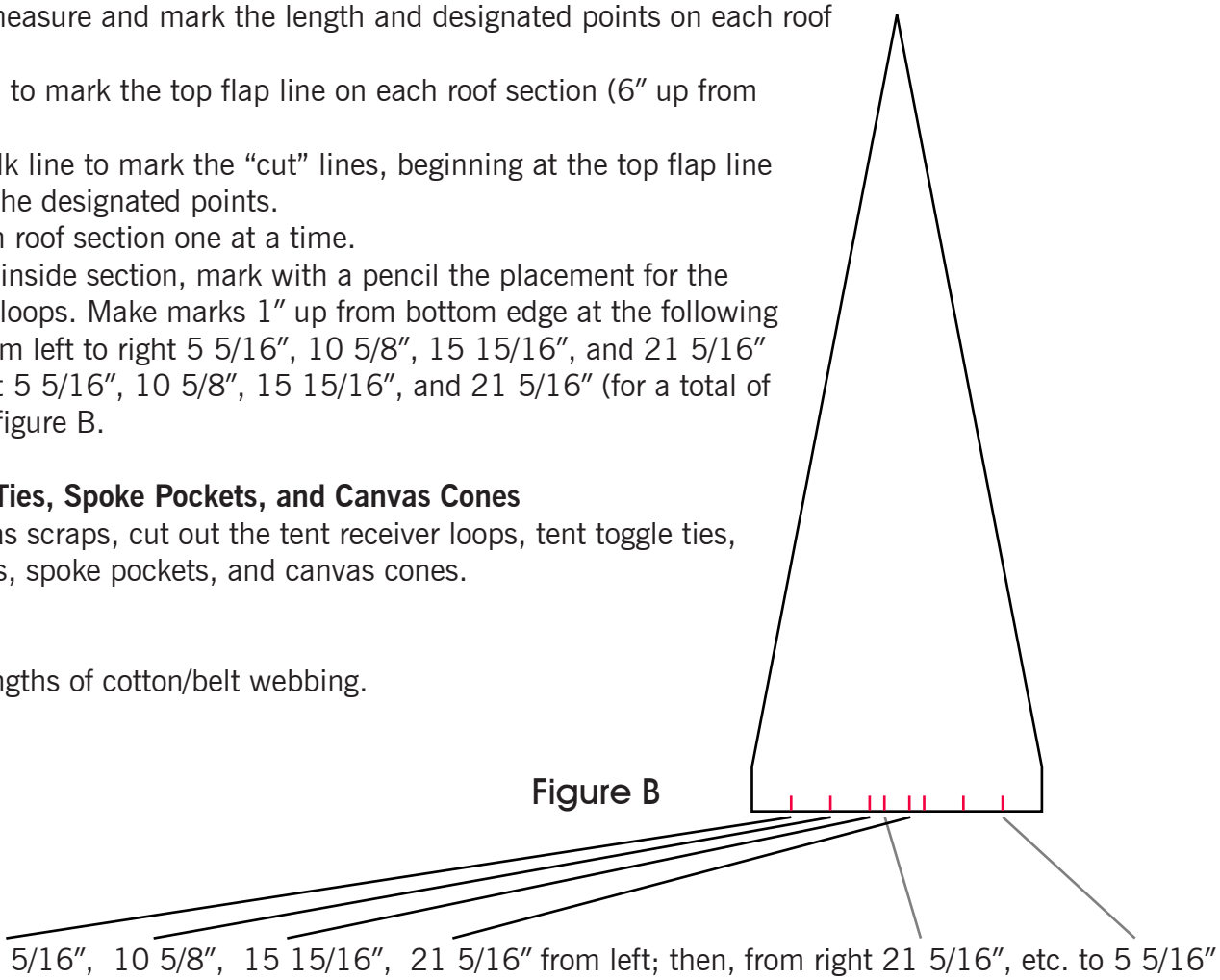
Loops, Toggle Ties, Spoke Pockets, and Canvas Cones

From the canvas scraps, cut out the tent receiver loops, tent toggle ties, tent stake loops, spoke pockets, and canvas cones.

Door Ties

Cut the four lengths of cotton/belt webbing.

Figure B



METHOD B: WORKING ALONE

* Wear Kneepads
* Rip the duct tape down the middle while unrolling in order to use less.
* Periodically check and correct the end of the canvas for square.

Wall Sections

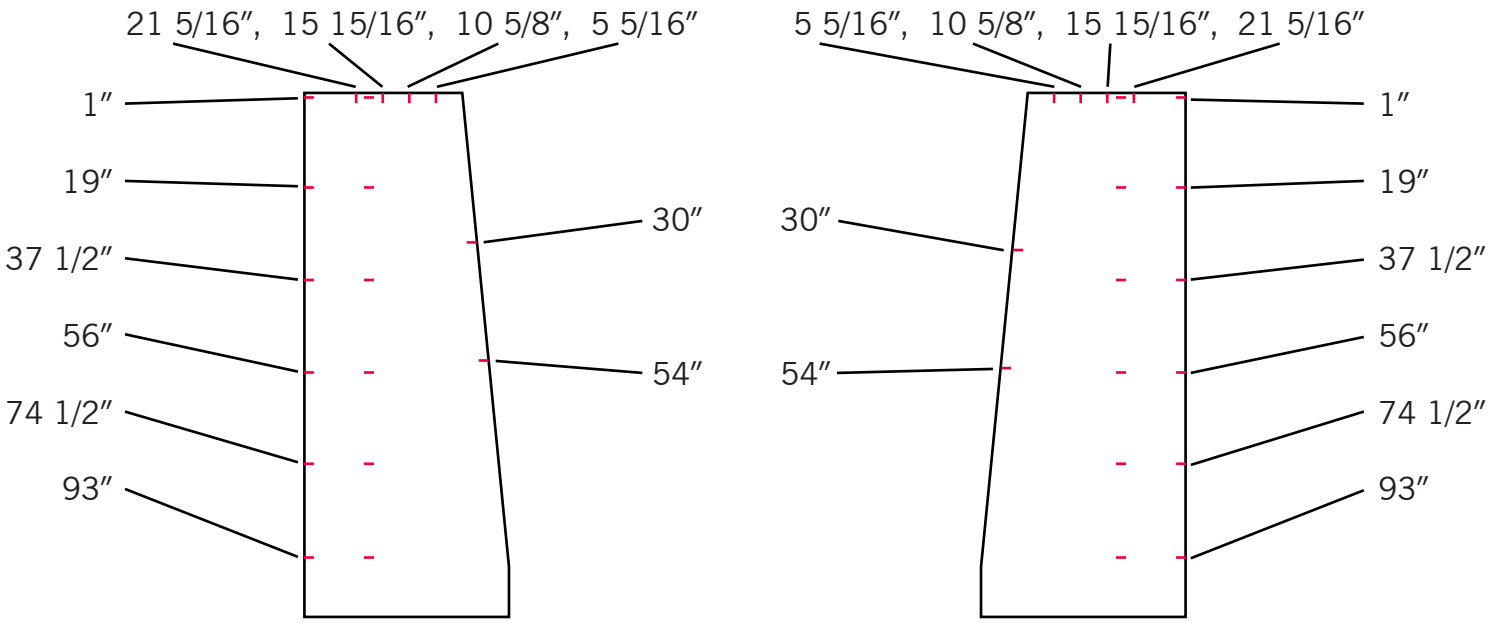
1. Using the duct tape, tape a straight line onto the floor at least 62″ wide (if taping onto a VCT floor, that's just a little over 5 tiles wide).
2. Measure up 8′ 11″ from the bottom edge of the duct tape you just taped to the floor (if taping to a VCT floor, that's just 1″ less than 9 tiles long).
2. Using the duct tape, tape a straight line onto the floor, with the bottom edge of the duct tape placed at the 8′ 11″ measurement, at least 62″ wide (remember, just a little over 5 tiles wide).
3. Using the duct tape, tape 2 straight parallel lines 60″ apart (exactly 5 tiles) from the bottom strip of duct tape to the top strip of duct tape you just taped onto the floor.
4. Use a Sharpie marker to mark the top flap line on the 2 side pieces of duct tape (10″ up from bottom).
5. Use a Sharpie marker to mark the designated points on the top strip of duct tape.
6. Unroll enough canvas for one wall section at a time. Place the canvas between the duct tape area, making sure the sides are lined up straight with the duct tape and the top and bottom are lying over the top and bottom duct tape.
7. Place a straight edge on top of the canvas' bottom edge, aligning the straight edge with the bottom edge of the duct tape – use a pencil and draw a straight line across the bottom of the canvas (this will square up the canvas). A pencil line does not need to be drawn every time, just make sure the canvas stays squared.
8. Place a second straight edge on top of the canvas' top edge, aligning the straight edge with the bottom edge of the duct tape. Use a pencil to draw a straight line across the top of the canvas.
9. Cut the top edge of the canvas.
10. Use the 12′ stair nose molding to draw lines with a pencil from the top flap line to the designated points marked on the top strip of duct tape.
11. Cut out the wall panel, and continue in this manner until all eleven wall panels are cut. Make sure canvas edges remain square.

Door Sections

1. Use a Sharpie marker to mark the designated points on the top strip of duct tape.
2. Unroll enough canvas for one door section at a time. Place the canvas between the duct tape area, making sure the sides are lined up straight with the duct tape and the top and bottom are lying over the top and bottom duct tape.
3. Place a straight edge on top of the canvas' bottom edge, aligning the straight edge with the bottom edge of the duct tape – use a pencil and draw a straight line across the bottom of the canvas (this will square up the canvas). A pencil line does not need to be drawn every time, just make sure the canvas stays squared.
4. Place a second straight edge on top of the canvas' top edge, aligning the straight edge with the bottom edge of the duct tape. Use a pencil to draw a straight line across the top of the canvas.
5. Cut the top edge of the canvas.
6. Use the 12′ stair nose molding to draw lines with a pencil from the top flap line to the designated points marked on the top strip of duct tape.
7. Cut out first door section.
8. If your canvas has a right and wrong side, be sure to flip your canvas over before placing it between the duct tape area to create the mirror image to the first door section. Make sure the sides are lined up straight with the duct tape and the top and bottom are lying over the top and bottom duct tape. Remember to also flip the door pattern over before drawing the lines for the mirror image panel. Use the 12′ stair nose molding to draw lines with a pencil from the top flap line to the designated points marked on the top strip of duct tape.
9. Cut out second door section.

10. On the door sections, mark with a pencil the placement for the toggle ties. Make marks on the inside, 1″ down from top edge, from angled edge to straight edge, at the following increments:
5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″. See figure C.
11. On the door sections, mark with a pencil the placement for the toggle ties and receiver loops. One door section will have the marks on the inside, and the other door will have the marks on the outside. Make marks, from top edge to bottom edge, 1” and 12” in from the straight side edge at the following increments:
1″, 19″, 37 1/2″, 56”, 74 1/2″, and 93″. See figure C.
12. Mark with a pencil the placement for the door ties (cotton/belt webbing) from the top edge downward on the angled side edge at the following increments: 30″ and 54″. See figure C.

Figure C



Roof Sections
*You will be cutting 2 roof panels from each section of canvas.
1. Draw and cut a roof template from newsprint. Refer to the cutting layout for exact measurements.
2. Unroll enough canvas for two roof sections at a time. Place the canvas between the duct tape area, making sure the sides are lined up straight. Place the bottom canvas edge along the bottom duct tape edge and place the top canvas edge beyond the top duct tape edge at least 6″.
3. Place a straight edge on top of the canvas’ bottom edge, aligning the straight edge with the bottom edge of the duct tape. Use a pencil and draw a straight line across the bottom of the canvas (this will square up the canvas).
4. Place the second straight edge on top of the canvas’ top edge, aligning the straight edge with the bottom edge of the duct tape.
5. Begin by measuring and marking the roof section where the bottom canvas edge aligns with the bottom duct tape. Use a pencil to mark the designated points on the bottom edge (width), sides (top of flap), and top edge (roof peak). Refer to the cutting layout diagram for exact measurements.
6. Use your roof template to help determine where the bottom edge of the second roof section will be placed (this will go beyond the roof peak of the first piece by a couple of inches due to the 6″ flap). Refer to the cutting layout diagram for exact measurements.
7. Place the second straight edge on top of the canvas’ top aligning it with the bottom edge of the second roof section (be sure to keep it square). Use a pencil to mark the designated points on the bottom edge (width), sides (top of flap), and top edge (roof peak).

8. Cut out the two roof sections.
9. Continue in this manner until all roof pieces are cut.
10. On one roof inside section, mark with a pencil the placement for the doors' receiver loops. Make marks 1″ up from bottom edge at the following increments: from left to right 5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″ and right to left 5 5/16″, 10 5/8″, 15 15/16″, and 21 5/16″ (for a total of 8 marks). See figure D.

Loops, Toggle Ties, Spoke Pockets, and Canvas Cones
From the canvas scraps, cut out the tent receiver loops, tent toggle ties, tent stake loops, spoke pockets, and canvas cones.

Door Ties
Cut the four lengths of cotton/belt webbing.

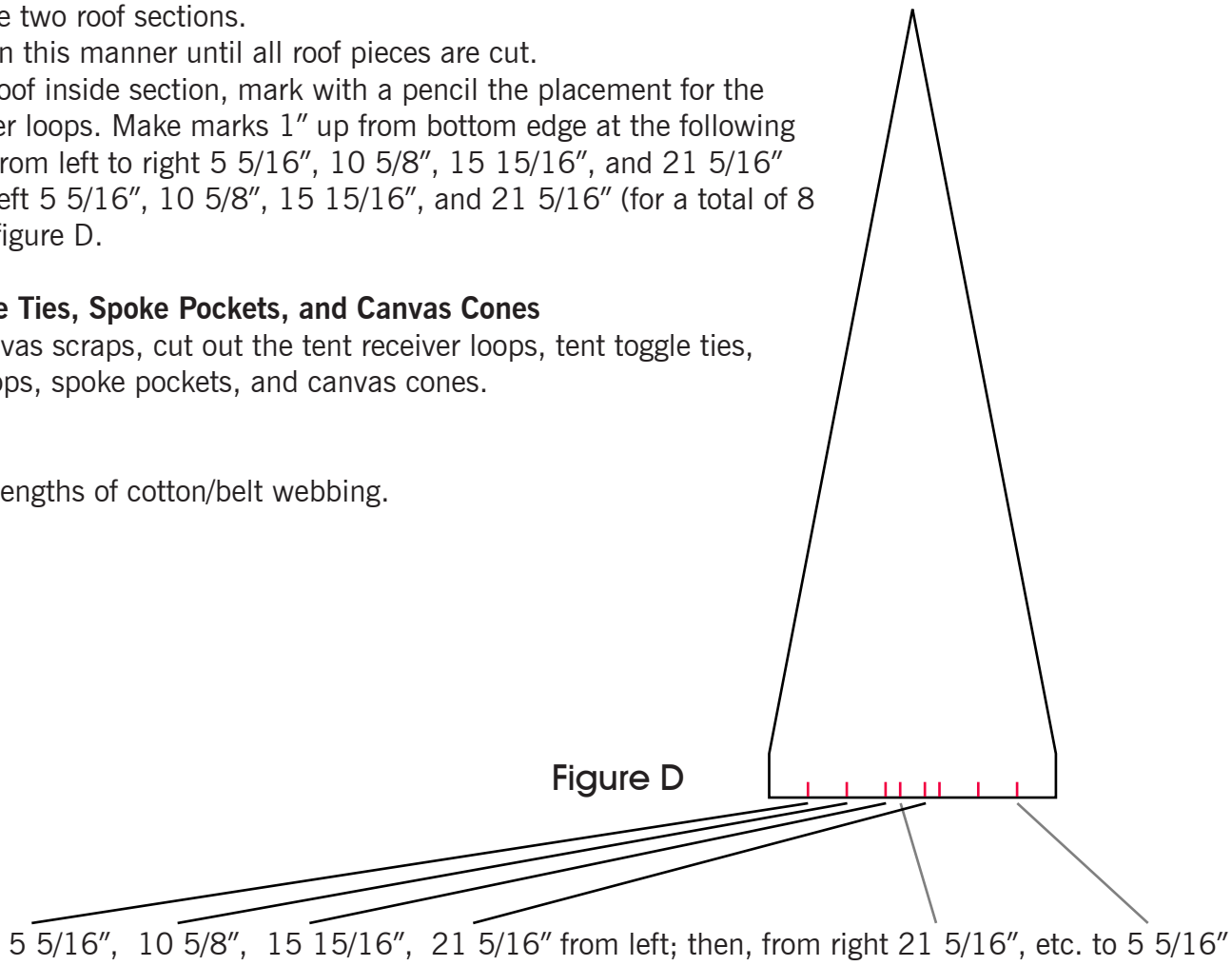
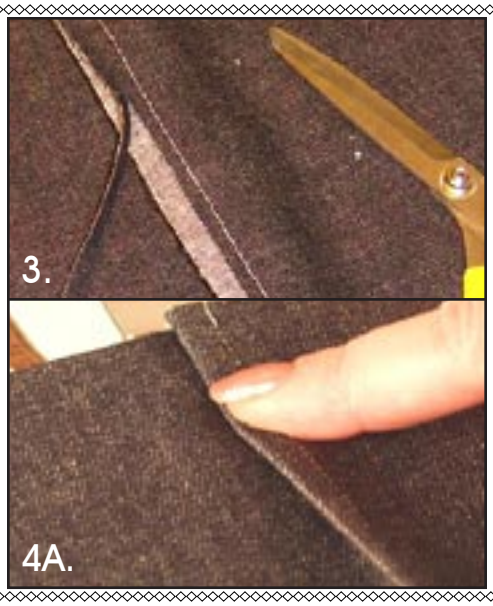


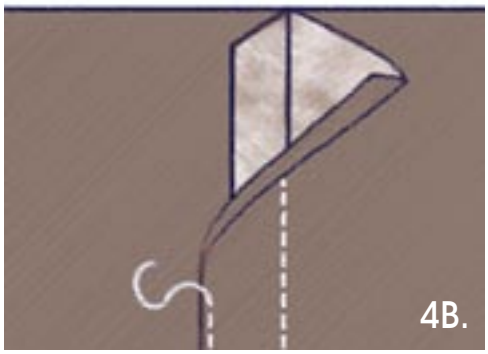
Figure D

ASSEMBLING:
* Hem seam allowance = 1/2″ unless otherwise noted. Hems are turned under 1/4″ twice and stitched.
* Side seam allowance = 1″ unless otherwise noted. Side seams use the flat-felled seam technique.
* Backstitch all seams.
* WST = wrong sides together
* RST = right sides together

Flat-Felled Seams

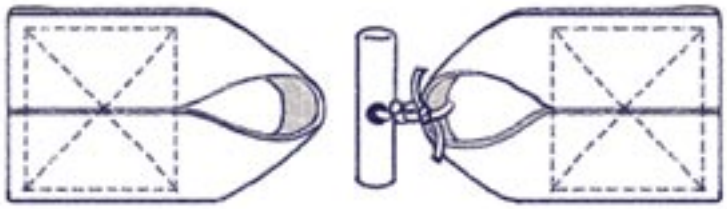
1. WST, stitch a 1″ seam allowance, backstitching at both ends.
2. Open canvas and finger press seam allowance open.
3. Cut 1 seam to 1/2″ width entire length of seam.
4. Fold the wider seam allowance over and under the narrower seam allowance and stitch close to the edge in the same direction as first seam.





Receiver Loops and Toggle Ties

Fold under short edges of receiver loops 1/4″ and topstitch. Fold loops in half lengthwise and finger press. Unfold loops and fold raw edges of loops to center fold line, fold loops in half lengthwise and stitch closed. Repeat for toggle ties.



Toggles

1. Cut the wood dowels into twenty 1 1/2″ segments. Mark each cut separately, since the saw blade takes away a saw blade-width of wood each time you cut.
2. Drill 3/16″ hole in the center of each segment for the rope to pass through. To stabilize the dowel segment for drilling, place it in a table vise.
3. Sand the ends and the edges around the hole.
4. Thread the 11″ rope through each toggle segment and tie a knot to secure rope to toggle.
5. Fold toggle tie in half lengthwise to determine its center and knot the toggle to the tie.

Roof

1. Each roof section will have a 6″ rectangular flap at the bottom. Hem three sides of the flap by turning the canvas under 1/4″ twice and stitching close to folded edge.
2. Stitch the receiver loops onto one roof section where marked. The fold should be placed directly over the mark.
3. With a pencil, mark where the 1″ seam allowances intersect with one another at the roof peak and make a mark 1″ below this. WST, using the flat-felled seam technique, stitch 2 roof sections together beginning at the top of the flap and ending 1″ below the peak, remembering to backstitch.
4. WST, continue stitching the roof sections together until all are stitched together, placing the new single section underneath the previously stitched sections (smaller section under larger section — this will keep too much fabric from having to be stuffed through the machine arm). There will be a hole at the tent peak.
5. Pull the loose ends of the roof's peak through the brass ring. Fan them out towards the inside of the roof, and lay as flat as possible, turning under the raw edges. Sew down the loose ends by machine or by hand with a heavy curved needle until the ring is secure.
6. Using a 3/8″ seam allowance, individually stitch the canvas cones' straight edges RST.
7. Turn outer curved edge of canvas cones under 1/4″ and topstitch.
8. RST, using a 3/8″ seam allowance, stitch the canvas cones together around the inner hole. Turn cones right side out.
9. Insert half of the cone through the hole in the roof's peak. Smooth out the cone on the inside of the roof and stitch along outer edge to roof, trimming and tucking under any raw edges from the roof. Be sure not to sew the outside cone at this time.
10. Smooth out the cone on the outside of the roof and stitch along the outer edge of roof through roof and inside cone.

Door

1. Each door section will have a 10″ rectangular flap at the bottom. Hem flap on angled side, bottom edge, and continue hemming the long straight side edge.
2. Stitch receiver loops (six per door) and toggle ties (ten per door) to door sections at markings (refer to figures A or C). Each door section will have four toggle ties along the top edge, and one row of six toggle ties and one row of receiver tabs placed vertically from top to bottom edge. When sewing loops and ties on the marks 12″ in from straight edge, use the fabrics grain line to position the loops and ties to keep them level.
3. Hem short edges of door ties (cotton/belt webbing) by turning under 1/4″ twice and stitching.
4. Fold each door tie in half lengthwise and mark the center with a pin. Place the center of the door tie on door angled-side edge at markings. Half of the door tie will lie on top of the door section and half will lie under the door section. Baste stitch tie to door section. Continue stitching all door ties to door angled-side edges.

Walls
Each wall section will have a 10″ rectangular flap at the bottom. Hem three sides of the flap by turning the canvas under 1/4″ twice and stitching close to folded edge.

Door and Walls
1. WST, using the flat-felled seam technique, stitch together first door section to first wall section, beginning at the top of the flap and ending at top edge. Remember to backstitch.
2. WST, continue stitching the wall sections together (first wall to second wall, second wall to third wall, and so on) until all are stitched together. As you attach new sections, place the new single section underneath the previously stitched sections (smaller section under larger section — this will keep too much fabric from having to be stuffed through the machine arm).
3. WST, stitch second door section to eleventh wall section.

Door, Walls, and Roof
* Do not use a true flat-felled seam technique.
* Use a 6″ ruler as a guide.
* Do not sew door sections to roof.
1. WST, match up door sections to corresponding roof section (the one section with receiver tabs).
2. WST, line up each roof–roof seam with a wall–wall seam. Place top edge of wall sections 1/2″ below top of roof flap and measure the distance between top edge of wall sections and bottom edge of roof flaps. Use this measurement to keep top edge of wall sections aligned on roof flaps.
3. Using a 1/2″ seam allowance and your 6″ ruler as a guide, WST, stitch wall sections to roof sections.
4. Fold the walls down into their ending position and stitch a second seam for reinforcement over and below previously stitched seam. This will look like a topstitched seam and will secure the raw edges of canvas underneath.

Spoke Pockets
1. Hem the curved edge of each pocket by turning it under 3/8″ and topstitching.
2. RST, fold the pocket in half, using a 3/8″ seam allowance, stitch the two opposite straight sides together.
3. Turn the seams to the inside of the cone. Flatten the cone so the straight seam is centered on the top side of the cone.
4. Stitch the open straight side closed by folding it just enough to topstitch through all layers towards the side with the center seam.
5. Position the pockets on the roofs' long seams above the roof–roof—wall–wall seam intersection. The center seam of the pocket will lay closest to the roof's long seams, with the bottom of the pocket placed against the thickest part of the roof–roof—wall–wall seam intersection.
6. Stitch the pockets to the roof's long seam by stitching into the pocket as far as you can. Stitch two rows of stitching, one on either side of the pockets center seam, making sure to backstitch.
7. Stitch the bottom of the pocket across the roof-roof-wall-wall seam to prevent the pockets from slipping to one side of the thick seam they are stitched to.

Stake Loops
1. Fold under short edges of stake loops 1/4″ and topstitch. Fold loops in half lengthwise and finger press. Unfold loops and fold raw edges of loops to center fold line. Fold loops in half lengthwise and stitch closed.
2. Position the loops at the base of each wall–wall seam on the inside of the tent. The loops should extend just a few inches below the "top of flap" line so that it can be pulled outside from under the wall for staking.
3. Stitch the loops in place using the same stitch pattern as receiver loops and toggle ties (x pattern).

RESOURCES:

- **Fabric**

http://www.seattlefabrics.com/marine.html#Sunforger
Sunforger® 60″ Natural
A 10 oz. 100% cotton marine canvas that is "boat shrunk" (you'll still need to shrink it again, see p. 1) and treated to be mildew-resistant and water repellent. Sunforger is very breathable, easy to work with and is a good alternative to Sunbrella. Fire retardant. Available on special order basis for an additional charge of $1.50/yd.

- **Thread**

Online at www.perfectfit.com
or
Ultra Dee Bonded Polyester 16 oz. by Coats (DB92, Tex90, White, SOAC 603304)
Available at Boyd-Walker Sewing Machine Company
(509) 535-1501
1926 E Sprague Ave
Spokane, WA 99202

- **Brass Ring**

http://www.mclendons.com/item.asp?sku=10283560
Available online and at McLendon Complete Hardware.
Solid brass welded rings
1 15/16″ outer diameter x 1 1/2″ inner diameter
7/32″ wire diameter
SKU: 10283560
Model #: BWR-112

- **12′ Stair Nose Molding and 6′ Steel Straight Edge**

Available at most floor covering stores.

- **Newsprint Roll End**

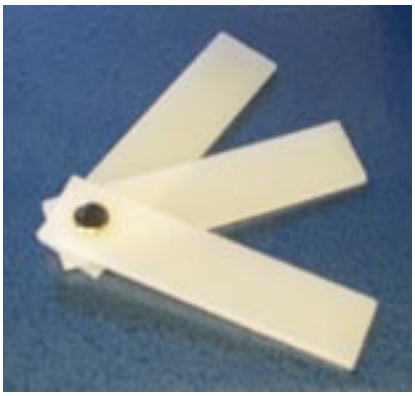
Available to purchase at most newspaper printers.

- **1/8" Nylon Rope**

• **Sewing Machine**
http://www.sailrite.com/

The Sailrite Ultrafeed LSZ-1 sewing machine is a straight stitch/zigzag sewing machine (Patent #6499415) featuring a mechanical walking presser foot that moves forward and back in time with the feed dog to ensure that the layers of fabric are consistently moving together through the machine. The result — heavy, bulky and even sticky fabrics like leather and window material are easily sewn with consistently symmetrical stitch lengths.

• **Height Compensation Tool (or the Jean-a-Ma-Jig)**
http://www.berninausa.com/faq_detail-n239-i2204-sUS.html
http://www.joann.com/joann/catalog.jsp;jsessionid=1MLFZFDIEKXPSP4SY5NFAFR50LD3KUPU?CATID=cat3491&PRODID=prd2995
Available at Bernina Dealers, or Jo-Ann Fabrics (as the Jean-a-Ma-Jig)



The height compensation tool is a BERNINA® accessory made up of three pieces of white plastic fastened together at one end. The pieces can be swiveled together to achieve various heights to compensate for uneven seams.
To use, place the height compensation tool under the portion of the presser foot that has lost contact with the feed dog — for example, under the back of the foot when stitching over a heavy seam in denim jeans. This tool can also be used where support is needed on one side of the presser foot.

• **Bobbin Saver**
http://www.blue-feather.com/bobbinsaver.html
Available online and at most fabric stores.

BobbinSaver™ Bobbin Holder holds metal or plastic bobbins of all different sizes! Shaped like half of a bagel and hollowed out, it is made of flexible rubbery plastic that expands to receive the bobbin and promptly snugs up around it. Threads won't tangle or unwind. BobbinSaver™ holds over twenty bobbins securely. BobbinSaver™ is a simple elegant gadget to store any kind of bobbin. Unit measures 3/4″ tall and 5 1/8″ diameter.

• **Magnetic Seam Guide**
Available at most fabric stores.

Attaches to metal throat plate on sewing machine to insure uniform seam width. Adjusts to any width. Removes easily.

MARYJANESFARM®

Homemade Tent

Framework

Approximate cost for tent framework: $180

YOU'LL NEED:

1 sheet marine grade plywood 3/4″ (for hub)
12 full round rods 1 5/16″ x 5′8″ (tent spokes)
1 SE 16 gauge Dura tube 1 5/8″ x 13′ (center pole)
Heavy DC cap 1 5/8″ (top of pole)
13 9″ tent stakes
1 3″ bolt, nut, and washers (support pin for hub)
Screws
Wood glue

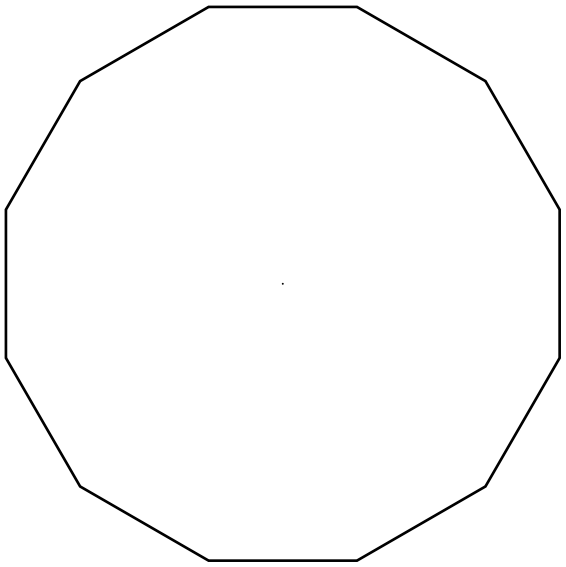
Jigsaw
Electric sander
Drill and bit for pre-drilling
Spade bit 1-3/8″
Wood bit 2″
Metal bit
Screwdriver
Measuring tape
Marker
Hammer or mallet
Twine and scissors

CONSTRUCTION:

1. Use template (next page) to cut out first hub from plywood. Place first hub on the plywood, pre-drill, and then screw through center to temporarily secure. Cut around hub, then remove screw, and repeat with next layers for a total of four hub pieces. Glue, screw through center, and clamp all layers together. Let dry. Sand edges evenly. Remove screw. With 1-3/8″ spade bit, drill one 2″-deep hole centered in each of the hub's twelve sides. With 2″ wood bit, drill down through center of hub from top. Sand edges.
2. On one end of each spoke rod, round edges by sanding.
3. Drill a hole 88” up from one end through both sides of Dura tube, large enough to pass the bolt through.

ASSEMBLY:

1. To insure circular shape of tent all tent stakes must be 10′ from tent center. The simplest way to achieve this is to place a stake at the center point. As a measuring guide, run a taut 10′ piece of twine from the center stake out to one stake tent loop. Stake down. Keeping twine taut, pivot twine to next loop location. Stake down. Repeat for all 12 stake loops.
2. Once tent is staked down, slide hub onto center pole and then place cap on pole top (the drilled hole in the center pole is 88″ from its bottom). From inside with tent door open, find tent center crown. Place pole top in center of crown and raise tent by raising pole to a vertical position. Pole should be centered now where center stake was.
3. Slide hub up pole until it is right above drilled hole. Place three washers on bolt and insert bolt in hole. Place three washers on other end of bolt and secure to pole with nut. Lower hub to rest on bolt.
4. Place rounded end of one spoke in one tent spoke pocket, and the other end in corresponding hub hole. Repeat until all spokes are placed.



HUB TEMPLATE:

To create the template for the hub, do either of the following:

1. Take the dodecagon at left to your local copy center, and have them enlarge it 400%. Full-size, it should be 12″ across, point to point. Cut it out.
2. Trace or make 4 copies of the piece below (one-quarter of the whole template), and cut them out. Stack them all together on the plywood, making sure the circular areas on the corner of each piece are aligned. Pin them down at the center of the circle, where the dashed lines meet. Fan them out evenly, making the shape at left. Use the side tab to pin or tape each piece to the next.