Cat-Climbable Christmas Tree
by Like Kittysville
www.likekittysville.etsy.com
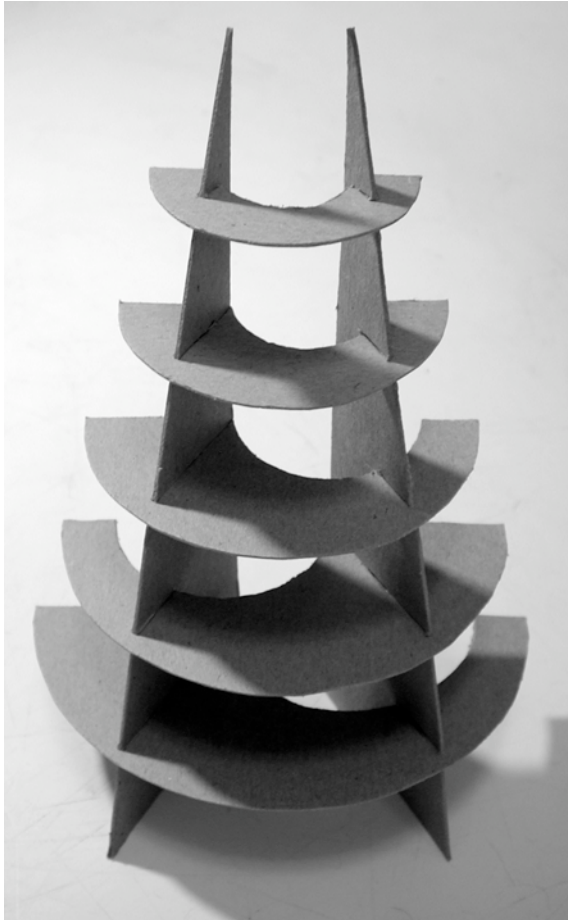
Finished size:
6 feet tall
4 feet wide
2 feet deep

Stored size:
6 feet x 2 feet x 3 inches

This tree is held together by lap joints – similar to slots cut in paper and overlapped to make the pieces stand up.

Materials:
One 4 ft x 8 ft sheet of MDF, 1/2 inch thick ($20 at Home Depot)
25 styrofoam balls or cat-friendly ornaments
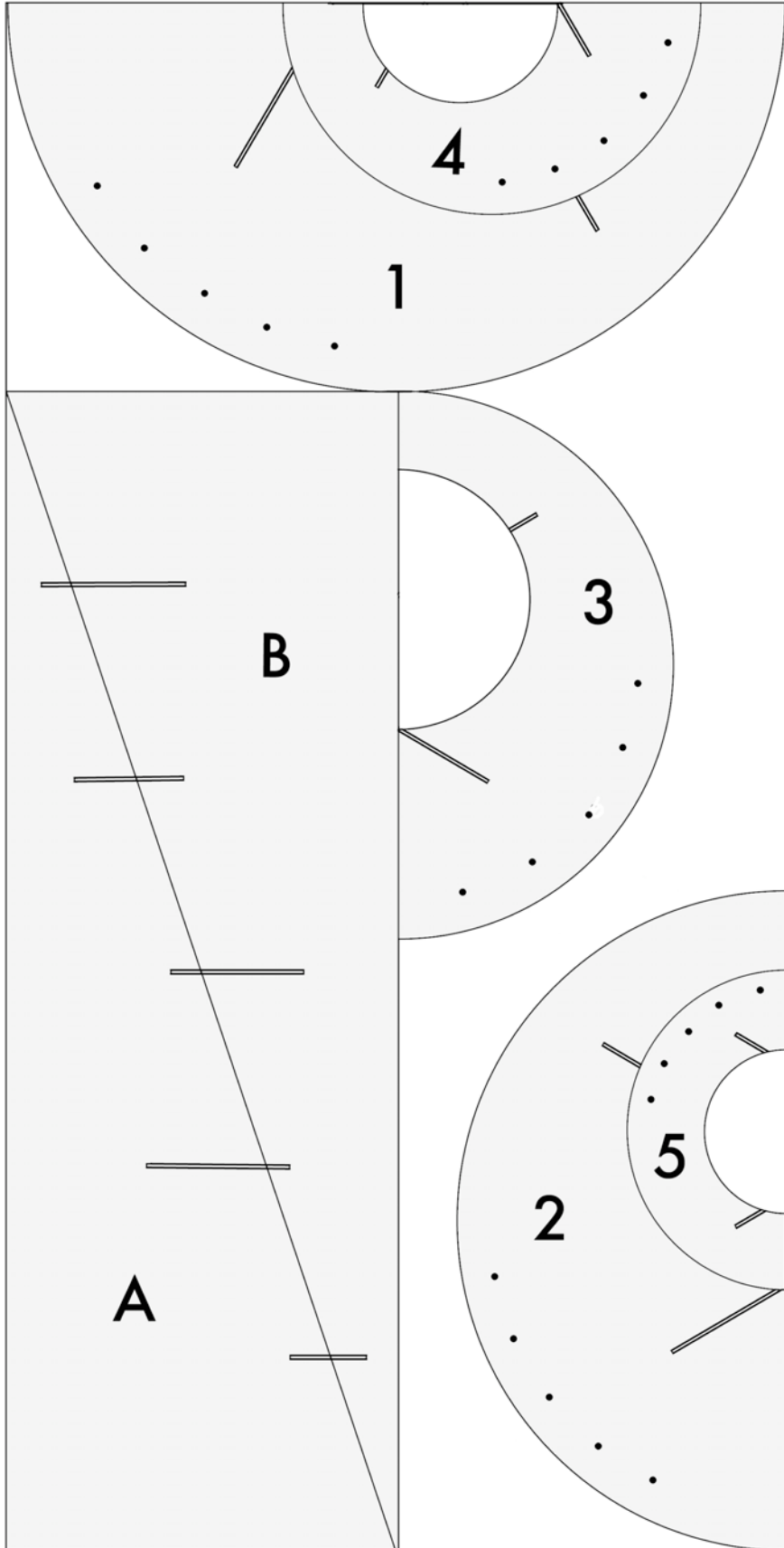25 feet of yarn or string
Paint

Tools:
Jigsaw
Overhead projector (optional)
Finishing sander or sandpaper
Drill
1/8 inch drill bit (or a bit large enough to thread string through)
Upholstery needle and awl

Radius of semicircles:

shelf 1
outer: 24 inches
inner: 13.5 inches

shelf 2
outer: 20.5 inches
inner: 10 inches

shelf 3
outer: 17 inches
inner: 8 inches

shelf 4
outer: 13.5 inches
inner: 6 inches

shelf 5
outer: 10 inches
inner: 4 inches

Leg height: 6 feet

Leg width at floor: 2 feet

Distance between shelves: 1 foot

Instructions:

1. Print the above pattern layout for cutting the MDF. If you have an overhead projector, print the pattern onto transparency paper and trace the projected image onto the MDF sheet. Or you can draft the pattern shapes manually onto the MDF using these measurements and sketches.
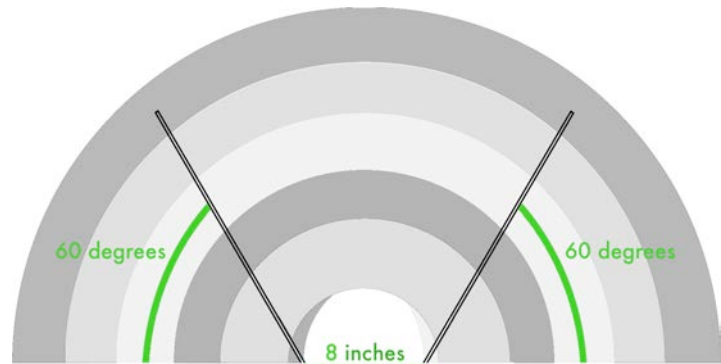
Width of slots: 9/16 inch

Length of slots (inches):

1A	2 7/8
1B	6 15/16
2A	7 1/2
2B	2 5/8
3A	2
3B	6 1/16
4A	4 3/32
4B	1 3/16
5A	2 1/8
5B	2 1/8
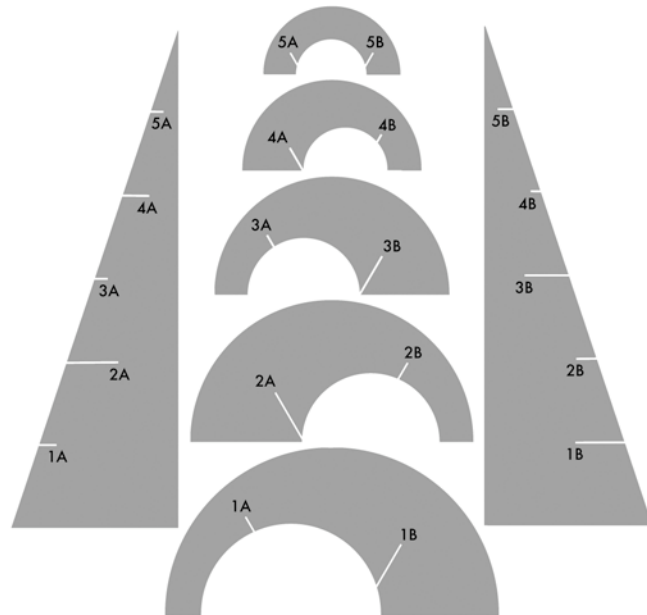
2. Cut the MDF shapes with a jigsaw. The only parts that need to be super accurate are the slots for the lap joints. After you've cut each slot, use a scrap piece of MDF to test the width of the slot – it should be wide enough for the scrap to pass through smoothly, but not so wide that the scrap can wobble loosely. Paint will add to the tightness of the joint, so if you plan to paint the MDF before assembling it, make the slots a tiny bit wider.

3. Drill holes for the strings/yarn – 5 holes per shelf, as shown on the pattern. Try pulling the strings through and knotting them to make sure the holes are the right size.

4. Smooth the cut edges of the MDF with a finishing sander or sandpaper, but don't sand inside the slots of the lap joints.

5. Assemble all the pieces. It's best to have two people do this – the tree is quite bulky and heavy. Lay one long leg down on the floor and attach the 5 shelves to it by sliding the slots together. Then lay down the other long leg and attach it to the shelves

6. Stand up the tree. If it's not level and stable, check to see if any of the lap joints need to be made tighter, looser, or deeper.

7. You can paint the tree while assembled, or take the tree apart and paint it. First label each piece of MDF (1-5, A-B) in an inconspicuous place so the pieces can be easily reassembled after painting.

8. Run the string through the holes in the MDF and through the balls or toys. Use an upholstery needle to thread the string through the MDF. Use an awl to poke holes through the balls or toys. Tie the ends of the string with knots.