



© 02/15/2011 Author: Mark Montemayor

How To Measure And Mark Basketball Lines Like The Pros

Measuring and marking the lines seems to be the most feared task facing do-it-yourselfers when considering the feasibility and difficulty of their basketball court project. Unfortunately, many are purchasing lining stencils, costing as much as \$500.00. Others are giving up on surfacing their own courts due the misperception that this task requires the skill of a professional, when, in fact, it is the easiest phase in the entire court surfacing project. Measuring and marking basketball lines is as easy as following these step-by-step instructions, which will take you from a blank surface all the way through to last chalk mark. For most of the guys out there, it will be easier than baking a cake. For those of you who were just about to purchase one of those expensive (worthless) lining kits, donations for this article may be made on our website (just kidding). If you run into any questions or problems pertaining to these instruction, or for that matter anything else, please call us at 404-915-8352 or drop us an email at the above address.

Before we start with the measuring and marking let's talk about the tools you will need. All of them can be purchased at the local hardware store. They are as follows:

- 100 foot tape measure,
- Chalk box with 100 foot chalk-line inside,
- A squeeze bottle of white chalk (only white chalk, colored chalks are permanent and will stain the court). If you can't find white chalk, talcum powder will work,
- A nail or small screwdriver for marking your measurements (anything with a sharp, hard tip will due),
- A plumb-bob or any object (a nut or a washer) tied to the end of a 12' piece of string,
- If you are lining a concrete court surface, a drill with a small masonry bit and a nail slightly smaller than the bit,
- If you are lining an asphalt court surface, a hammer and a small nail 1-1/2" long,

STEP 1: Marking The Center Line (The Most Important Reference Line On The Court)

The first step is to chalk a line from the inside center of each basketball goal post (STEP 1 on the diagram below). This line will be the reference point for almost all other lines on the court. If you have a half-basketball court, with only one goal, find the center point of the other end of your court (opposite the goal) make a mark, and chalk the line from there to the inside center of your goal post.

STEP 2: Projecting The Backboard Onto The Court

Drop a plumb-bob from the center inside edge of the backboard down to a point where it is just above the court surface and make a mark where its point intersects the center line you just chalked. This projects the inside edge the backboard onto the court. Now measure from that mark back 4', 1" and make a mark intersecting the center line (STEP 2 on the diagram below). Note: If your basketball goal does not have an arm that extends more than 4', 1" feet from the pole to the backboard, you will make your mark behind the pole. This measurement represents the back, out-of-bounds line. Many home and recreational courts do not have 4 +feet of surface area behind the backboard. That's alright, just measure as far back as you have surface area and make your mark there. Write down that measurement. If you have two goals, repeat this step (Step 2) at both ends. If you only have one goal, make a mark on your center line (at the opposite end from your goal end) where you want your back out-of-bounds line to be.

STEP 3: Marking The First Arcs For The Court Corners

Measure, from the point you just marked (where the center line intersects the back out-of-bounds mark), towards the side of the court 25', 1". Draw an arc, by putting your marking device under the tape measure at exactly 25', 1", stretch

the tape tight, and lightly scratching the surface for about 2 feet where it is approximately the same distance from the edge or you court as is the back out-of-bounds mark at the center line. Now, scratch another arc at the other side of the center also 25', 1" (STEP 3 on the diagram below). Repeat this step (Step 3) at both ends. If your court area is not large enough for regulation out-of-bounds lines, pick whatever distance which will put the corners comfortably inside the court.



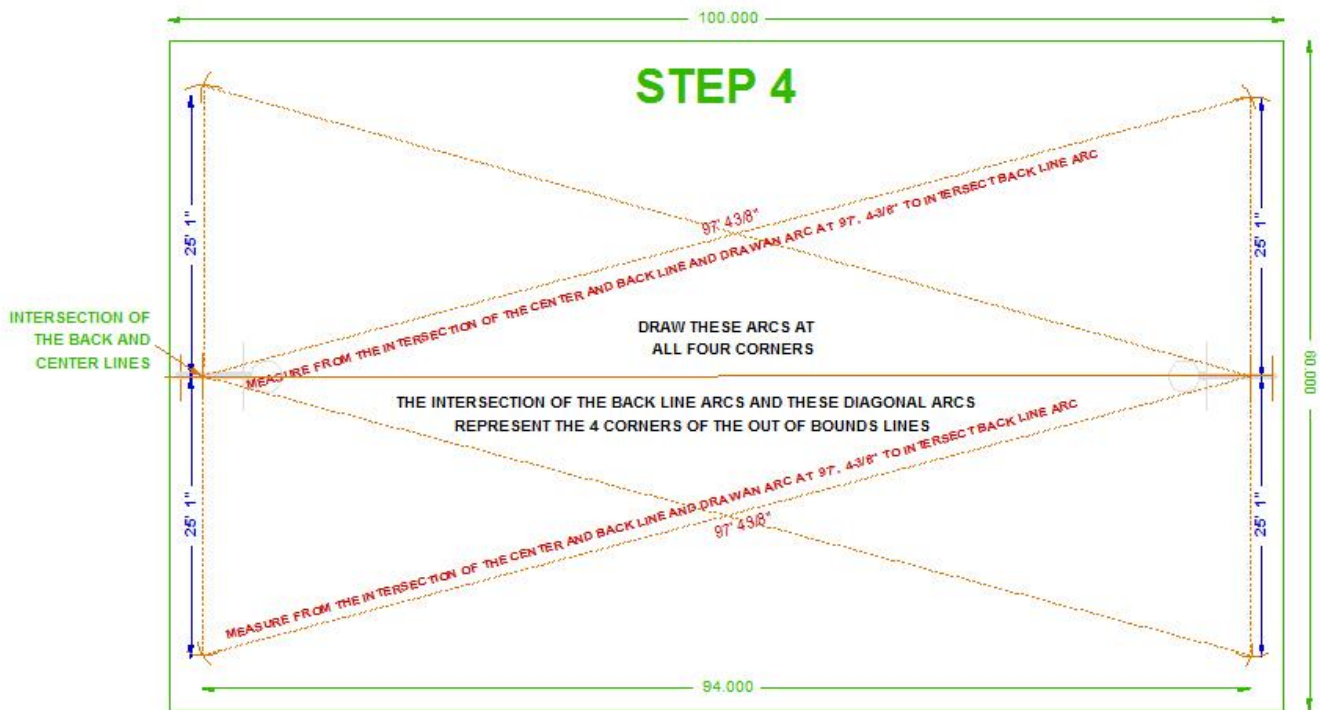
STEP 4: Obtaining The Corners And Squaring The Court

You are now ready to locate the corners of the out-of-bounds lines and create a perfectly square court. Place the end of the tape measure at the center out-of-bounds mark (it is the one that is 4', 1" behind the backboard mark). Stretch the tape measure, diagonally, from there to the two far corners and scratch arcs at 97', 4-3/8" (STEP 4 on the diagram below). These arcs should intersect the corner arcs you just made. If they don't intersect, re-measure and mark the corner arcs so they intersect the diagonal arcs. Repeat this step at the other end of the court. You have now established the court playing area, which should be 94', 2" X 50', 2" if your measurement were accurate. If you find any discrepancies, check your measurements until you find the mistake(s).

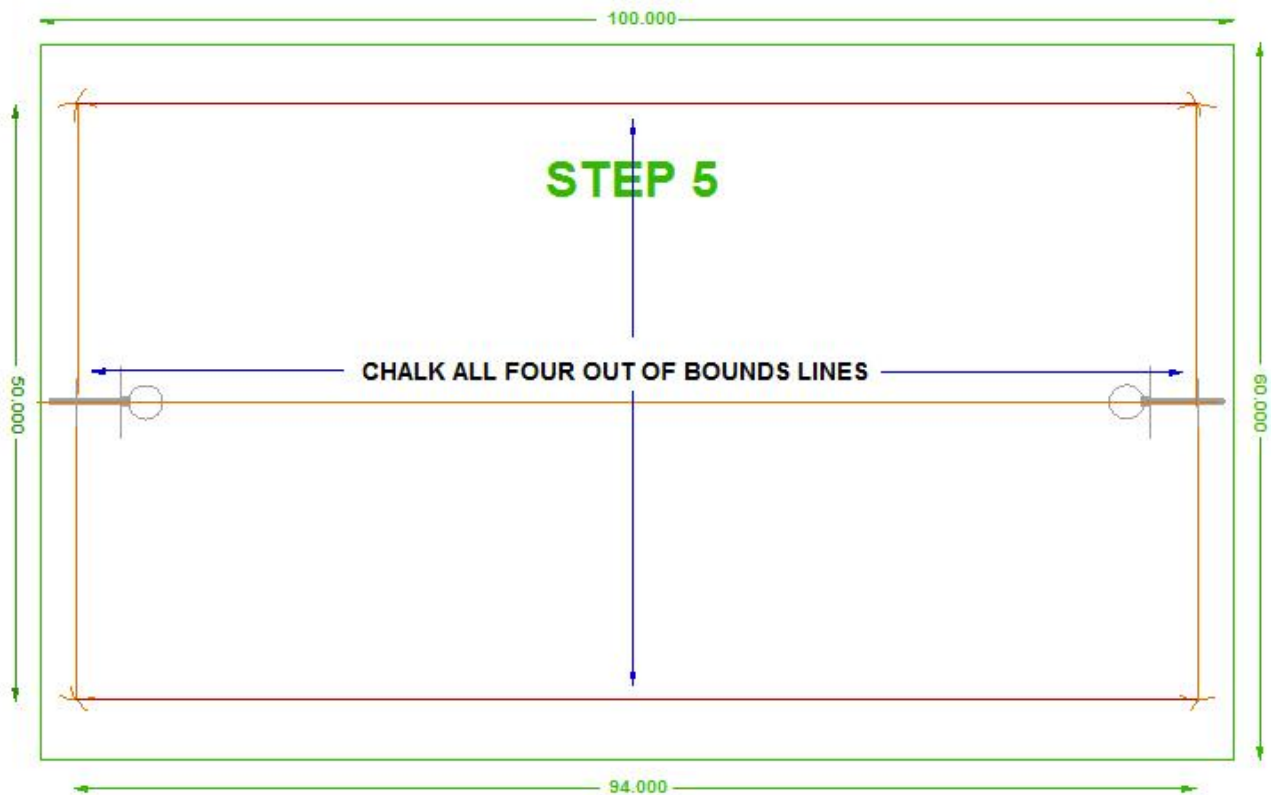
If your court surface area is not large enough to accommodate these dimensions you will need to do a little (calculator) math to establish and square the playing area (out-of-bounds lines). This How it is done:

- Measure the distance (at the center line) from out-of-bounds to out-of-bounds to find the exact length of the court. Multiply that dimension by itself and place that total in your calculator's memory (M+).
- Multiply the exact width of the court by itself and place that total in your calculator's memory (M+).
- Hit the memory recall button (MC).
- Hit the square root button ($\sqrt{\quad}$). This is the diagonal measurement you will need in place of the 97', 2" dimension used in the diagram below.

In many cases you will find the court pad was not built square and the perfectly square lines you just laid out are not parallel to the edges. In this case, you have two choices: adjust the out-of-bounds lines so they are more parallel to the edges of the pad, or perform major work on the pad to bring it into square. Unless you have to adhere to strict regulation measurements, I would recommend the former. These adjustments should not affect the real import lines (the keys, free throw lines, center circle and three point lines) at all.

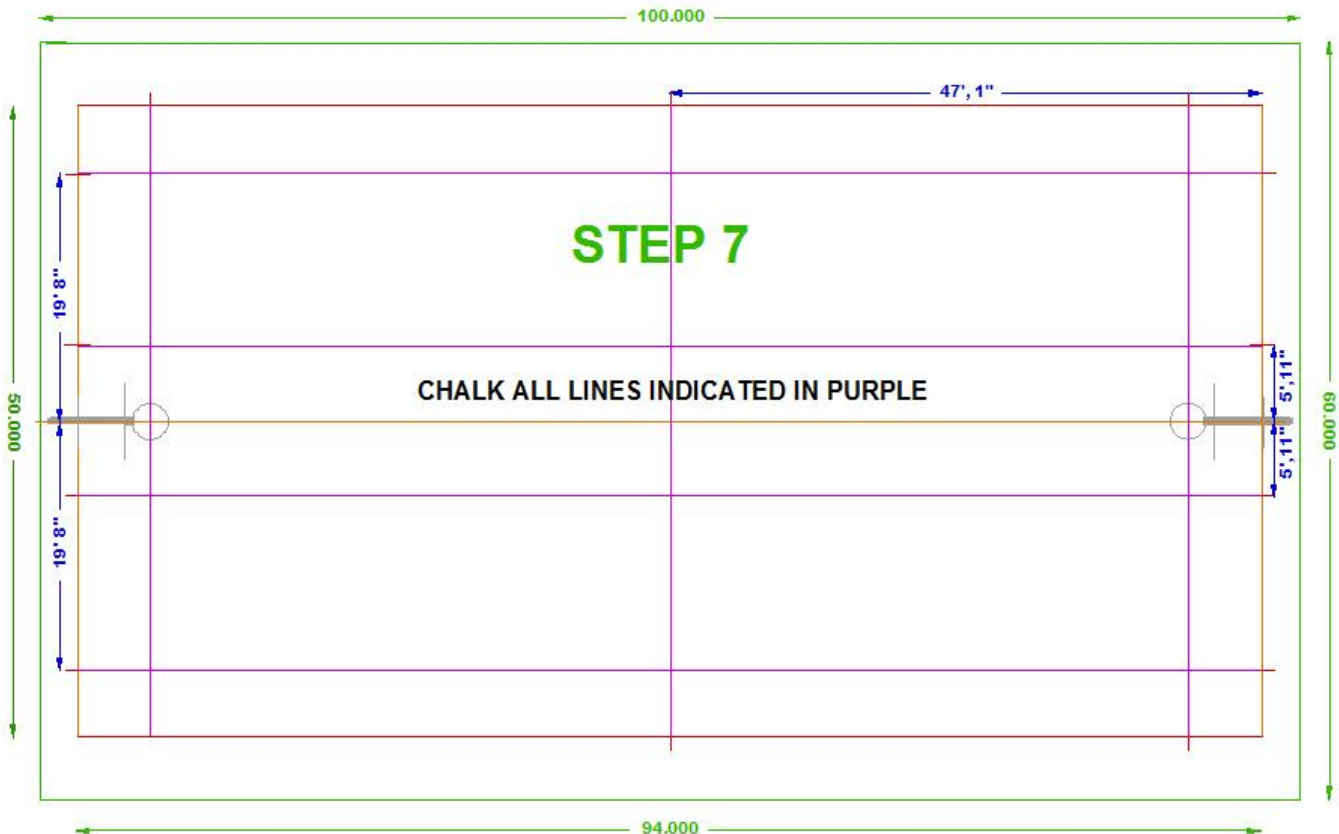
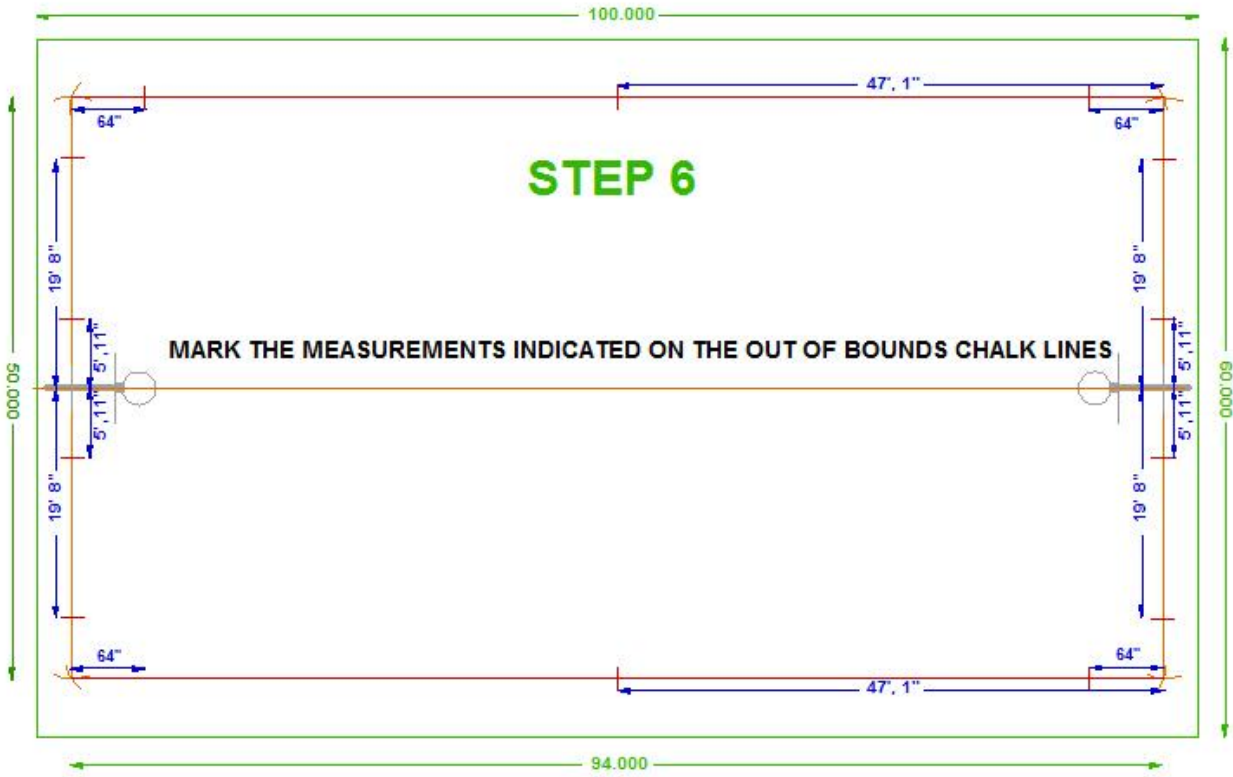


STEP 5: Chalk The Court Boundaries



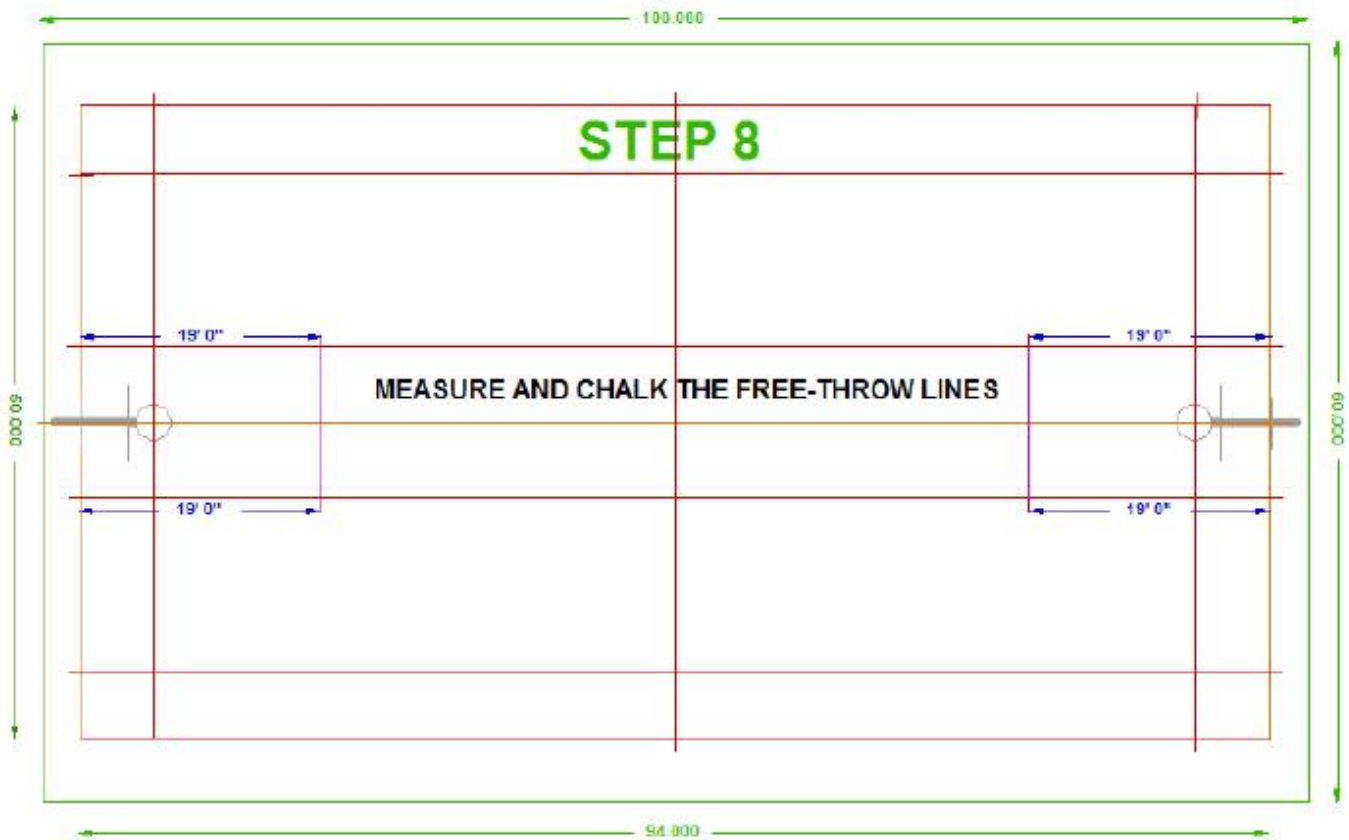
STEPS 6 AND 7: Mark The Key widths, The Outer Dimensions Of The Three Point Lines, And The Center Division Line

Mark all of the measurements indicated on the diagram (STEP 6) below. Chalk lines as indicated below in STEP 7.



STEP 8: Measure And Chalk The Free-Throw Lines

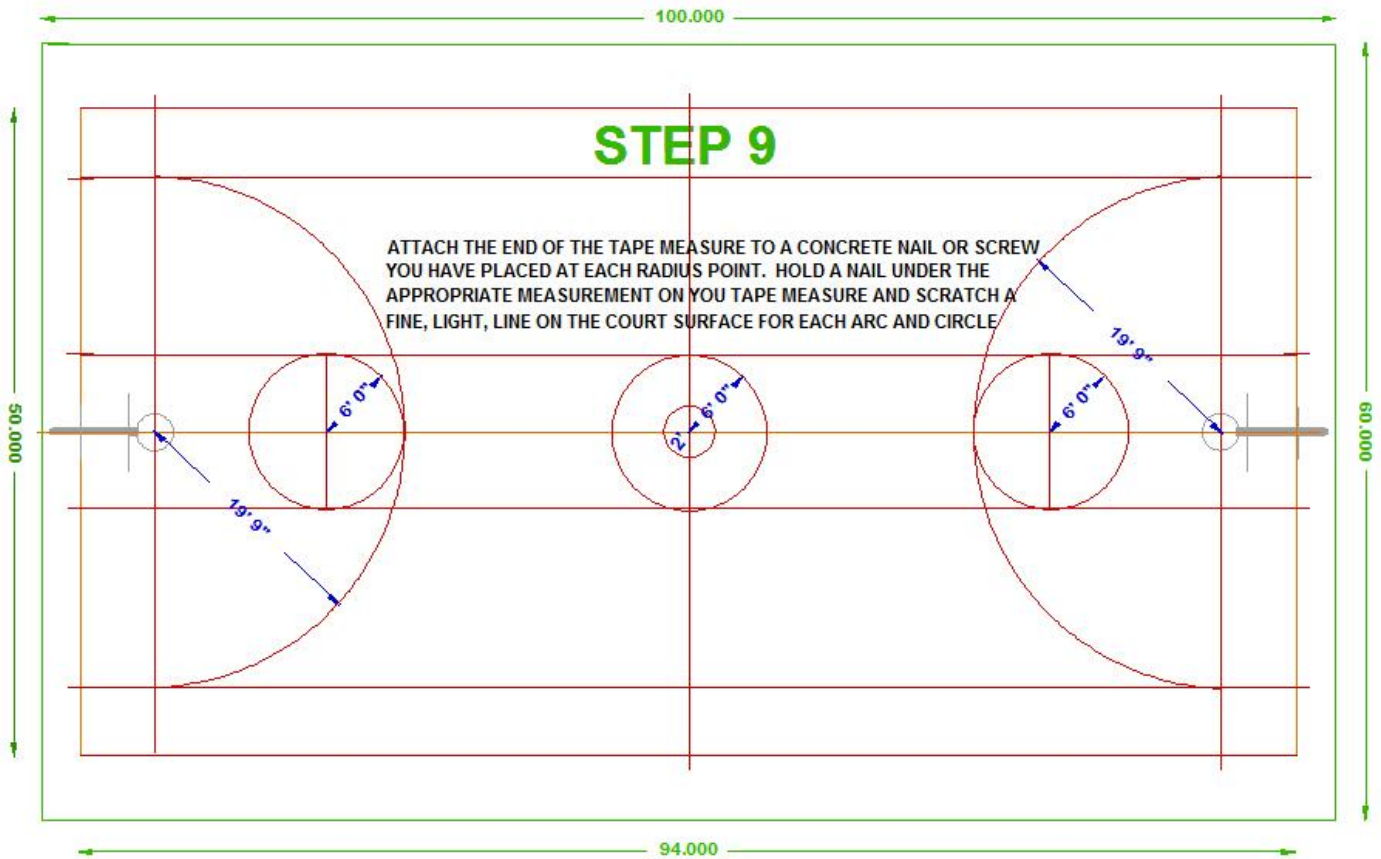
If your court is large enough to have 4', 1" behind the backboard(s), measure out from the back out-of-bounds lines 19' and make the free-throw marks and chalk the lines as indicated in purple below (STEP 8). If your court does not have the full 4', 1" behind the backboard(s), add 15' to whatever distance your back out-of-bounds measurement is from the front of your backboard, and mark and chalk the free-throw lines. The objective is to make sure the free-throw chalk line is exactly 14', 11" feet from the front face of the backboard.



STEP 9: Measure And Mark The Three-Point Arcs And The Circles

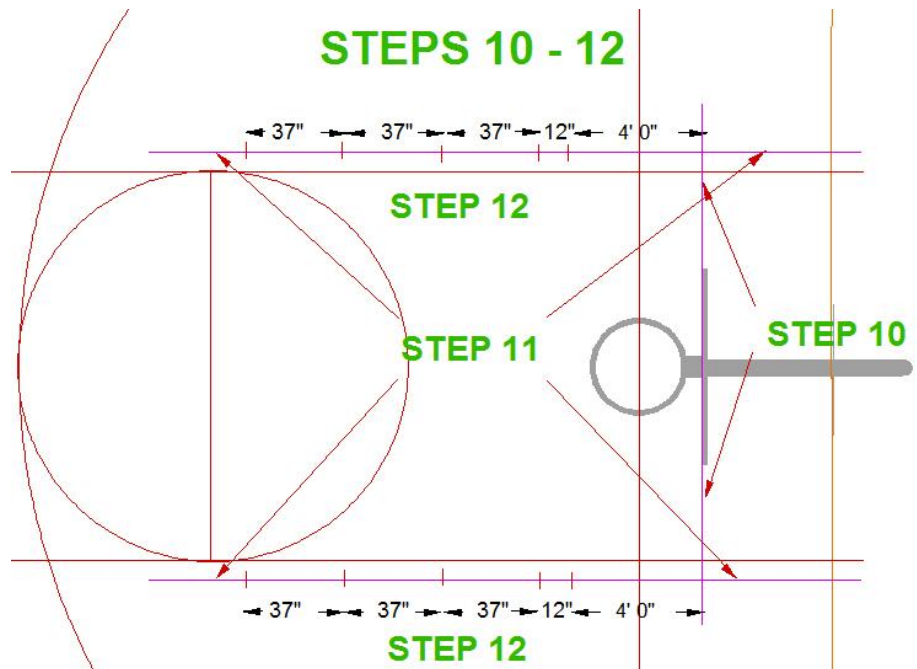
The three point arcs and the circles are thought by many to be the most complicated part of marking basketball court lines. They are actually very easy. You draw them by attaching the end of your tape measure to a radius point and scratching a faint line onto the court surface at the proper measurement (STEP 9 on the diagram below). It is the same technique used to draw the other arcs. The only difference is: these are longer. One point you should keep in mind: these measurements represent the outside of the circles and three point arcs, not the middle (as is the case with the straight line measurements in these instructions). This is because you will use the edge of the outside roll of tape on the machine as your guide. You use the center pointer on the tape machine as your guide for the straight lines.

How you embed the center radius point (small nail) in the court surface depends on whether your court is concrete or asphalt. For concrete drill a hole at each radius point about a half inch deep, using a 1/8" masonry bit (or whatever size is big enough to tap in a small nail). Make sure your nail is sticking up at least 1/2" above the surface. If your court is asphalt, you should be able to tap the nail in with a hammer.



STEPS 10 – 12: Measuring And Marking The Ticks On The Key(s)

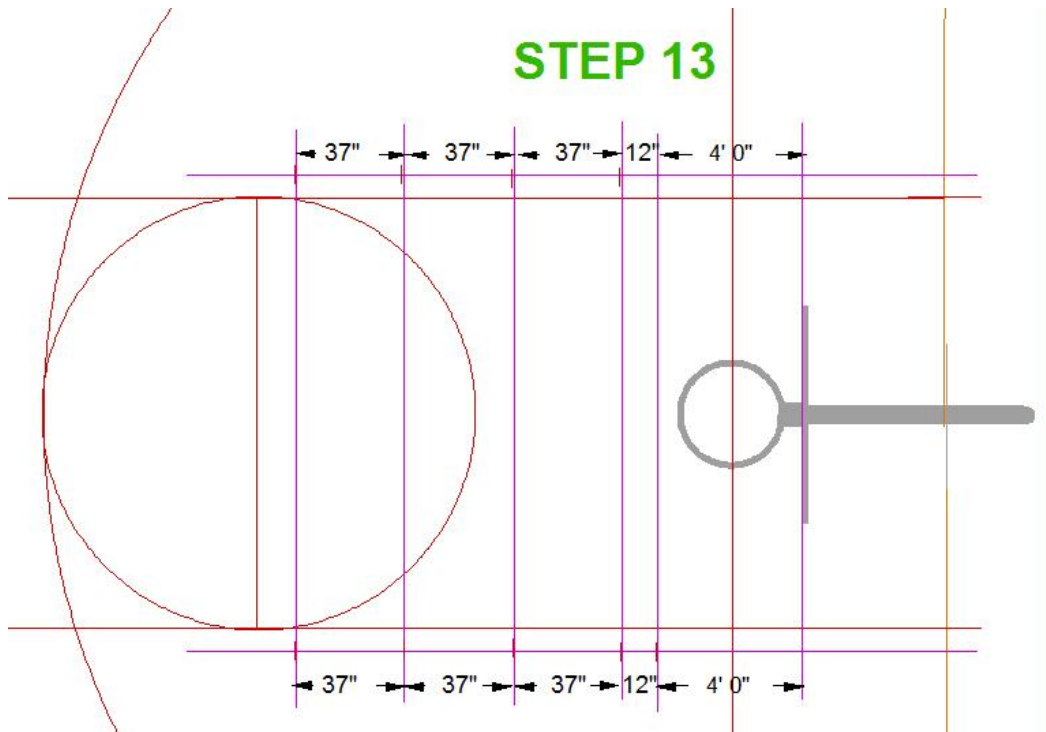
The first step to marking the ticks is to measure from each corner of the free-throw chalk-line, 14", 11". These points will represent the front edge of the backboard, if you have accurately followed these instructions. Chalk a line across these two points (STEP 10 on diagram). Make sure the chalk line extends beyond the sides of the key by, at least, 1 foot. Now, along each side of the key, make two marks, 9" out and chalk a line between them (STEP 11 on diagram). One mark should be made from the point where the side of the key intersects the backboard line, and the other mark should be made where the free throw line intersects the side of the key. Now mark the measurements shown in STEP 12 on the diagram.



STEP 13: Chalking The Tick Marks

The final step to this process is to chalk the tick marks for easy and fast taping. Chalk a line across the marks on each side of the key, making sure to overlap at least a foot (represented in purple on the diagram labeled STEP 13 below). Chalking all the way across the key will ensure the ticks are in line on both sides of the key, and it is also a lot faster than chalking each side separately. These chalk marks will also allow you to use the tape machine to quickly tape the ticks. The only tick you will have to hand lay the tape is the one closest to the goal. This one is 12" wide.

Don't worry about all the white chalk marks and lines. They will rinse away during the first rain. If no rain is imminent, and you can't wait, get your garden hose out and rinse the off yourself after the line paint has been down for two days.



You have now measured and marked all the lines on your basketball court. Now come the fun parts: Taping and painting the lines. We will have these instructions available in the spring. If you need them sooner we will be glad to email a copy to you. If you would like to watch a video showing the taping and painting of a tennis court, [Click Here](#).

Please contact us if you have any questions or comments. Our contact information is at the top of these instructions.