I have been asked to draw a logo for a sports apparel company who specialises in making clothes for baseball players.

I have decided the logo will include two baseball bats and a baseball.

My completed design is shown below.

The design logo on the shirt is inside a square that is 40cm by 40cm.

This is a scale drawing of the logo using a scale of 1:5. The squares on the graph paper are 1cm so 1cm on the scale drawing represents 5cm on the real design.

To construct the design:

1. Mark the point A at (3,9) and the point B at (11,3)
2. Join A and B: this is of length 10cm
3. Construct the perpendicular bisector of AB.
4. Mark the point C on this line which is 5cm from where the lines cross
5. Mark the point D on this line which is 5cm from where the lines cross.
6. Mark the point E at (7,3)
7. Draw the locus of points which are no more than 1cm from E. This is all the points inside a circle which I have shaded in like a baseball.

When the machine sews this design it will sew from the back of the material.

To sew the design from the back the instructions are going to be pretty much the same except that the x values will all change but not the y values. If the sewing machine starts at the point (12,0) on the diagram then the new x coordinates will be 12-x. So (3,9) becomes (9,9) and the same with all the rest. I don't think any other instructions need to change.