■ The running track

A group of students have been given the task of marking out the inside of a 400m running track on the school field. To mark out a locus in the shape of this track the students are provided with a thick rope to peg down in the middle of the field. A thin rope can be looped around this and used to mark the locus.

Work out how long each of the lengths of rope need to be to mark the track.