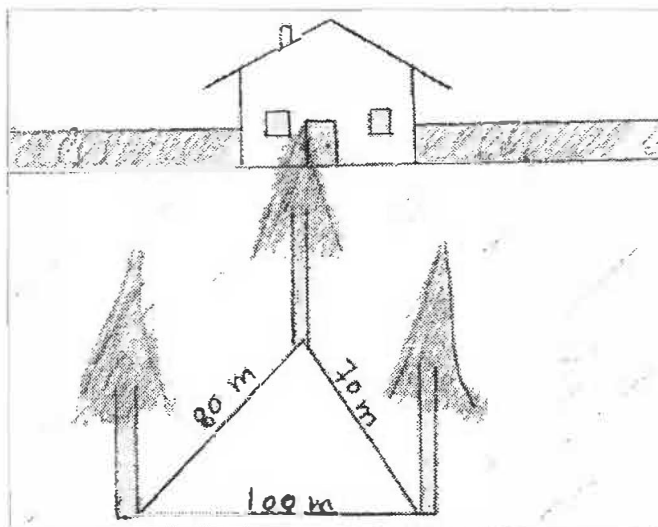


Geometry in Landscaping— What's the Diameter?

Klaus Puhlmann

Mr. Jones, the owner of a large country estate, called upon George from the local landscaping company to create a new look in his large front yard. Before he accepted, George visited Mr. Jones to see what he had in mind. Mr. Jones showed George a sketch of what he wanted done. Mr. Jones said, "Can you see the three trees, the pine, the spruce and the tamarack? I planted these on the occasion of the birth of my three children. These three trees shall become the focus of attention in my yard. Therefore, I want you to create a circular area of lawn around each tree, with the three circles touching one another and each tree being the centre of its respective circular lawn area. In the rest of the yard, you can plant flowers or shrubs."

George scratched his head as he looked at the sketch. The three trees were 70 m, 80 m and 100 m apart from another in a triangular arrangement. As



geometry was not George's strong suit, he decided to take the sketch home and think about it. At home, George worked for hours without success. He then took his old compass and tried to sketch the problem through trial and error. Again, he had no success. At that point, Ryan, George's work-experience student from the local high school, walked in to see George in total frustration. As George explained his problem to Ryan, he responded by saying, "No problem, George!"

Ryan sat down at the desk and in a few minutes gave George a piece of paper with three numbers on it. "Here is the solution to your problem," exclaimed Ryan. George was relieved and

felt considerably better. He phoned Mr. Jones and accepted the job.

Are you able to solve this problem? What is the diameter of the largest of the three lawn circles around the trees?