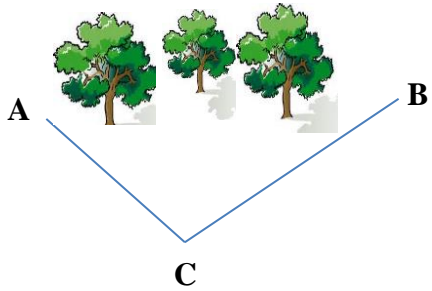


**Activity - Surveying a Piece of Property**

The owner of a triangular lot near Herriman, Utah wishes to install a fence along the border of the property. A surveyor has been employed to determine the dimensions of the piece of property. The distance between points A and B cannot be measured directly because a group of large trees obstructs the view. The surveyor stands at point C and determines that the distance from C to A is 127 feet, the distance from C to B is 161 feet, and  $\angle ACB$  is  $113^\circ$ .

1) How many feet of fencing will be required to fence the side of the lot from A to B? Please round to the nearest tenth and use appropriate units.



2) What is the area of the lot? Please round your answer to the nearest tenth and use appropriate units.

3) The owner decides to purchase an adjacent lot (see the figure below). The distance from C to D is 130 feet, and  $\angle DAB$  is  $120^\circ$ . What is the combined area of the two lots? Please round your answer to the nearest tenth and use appropriate units.

