**Fencing Your Property**

Your parents have decided to fence in the yard so that your dogs can play freely and safely. There are two local companies that have time to install the fence within a couple of weeks. You know that both companies will do a quality job, so the decision will come down to price. Your parents have enlisted your help to determine which company will be more affordable.

* The Fence Masters say that they will complete the job for $12 per foot of fencing.
* Good Neighbor Fencing says that they will charge you $250 for the first 100 feet of fencing and $15 for each additional foot.

The boundary of your yard is determined by five trees. The lines connecting them form the edge of your property. Shown below are the descriptions for the positions of the trees relative to your house.

|  |  |
| --- | --- |
| Tree | Position |
| 1 | 100 feet east |
| 2 | 40 feet east, 80 feet south |
| 3 | 40 feet west, 120 feet south |
| 4 | 90 feet west, 60 feet north |
| 5 | 20 feet east, 110 feet north |

Determine which company can complete the job for the better price. Provide mathematical evidence to fully justify your choice.