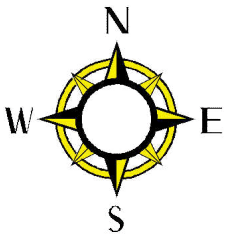
Name: _____ Block: _____ Date: _____

Geometry Project Fencing Your Property

You want to put a fence around your large yard. There are two companies that you have found to do the work. They have each given you a quote for how much the work will cost. Of course, you want to find out which company will be the cheapest.

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 (relative to your house)
1	100 ft. east
2	40 ft east, 80 ft south
3	40 ft west, 120 ft south
4	90 ft west, 60 ft north
5	20 ft east, 110 ft north



STEP 1: On graph paper, mark the position of each of the trees on your land. Let each block of the graph paper represent a 10-foot by 10-foot square. Using a straightedge, connect Tree 1 to Tree 2, Tree 2 to Tree 3, Tree 3 to Tree 4, and so on.

STEP 2: Use the Pythagorean Theorem to find the length of each side of your property. Round each answer to the nearest hundredth, if necessary.

STEP 3: Determine the perimeter of your property by adding up all of the sides.

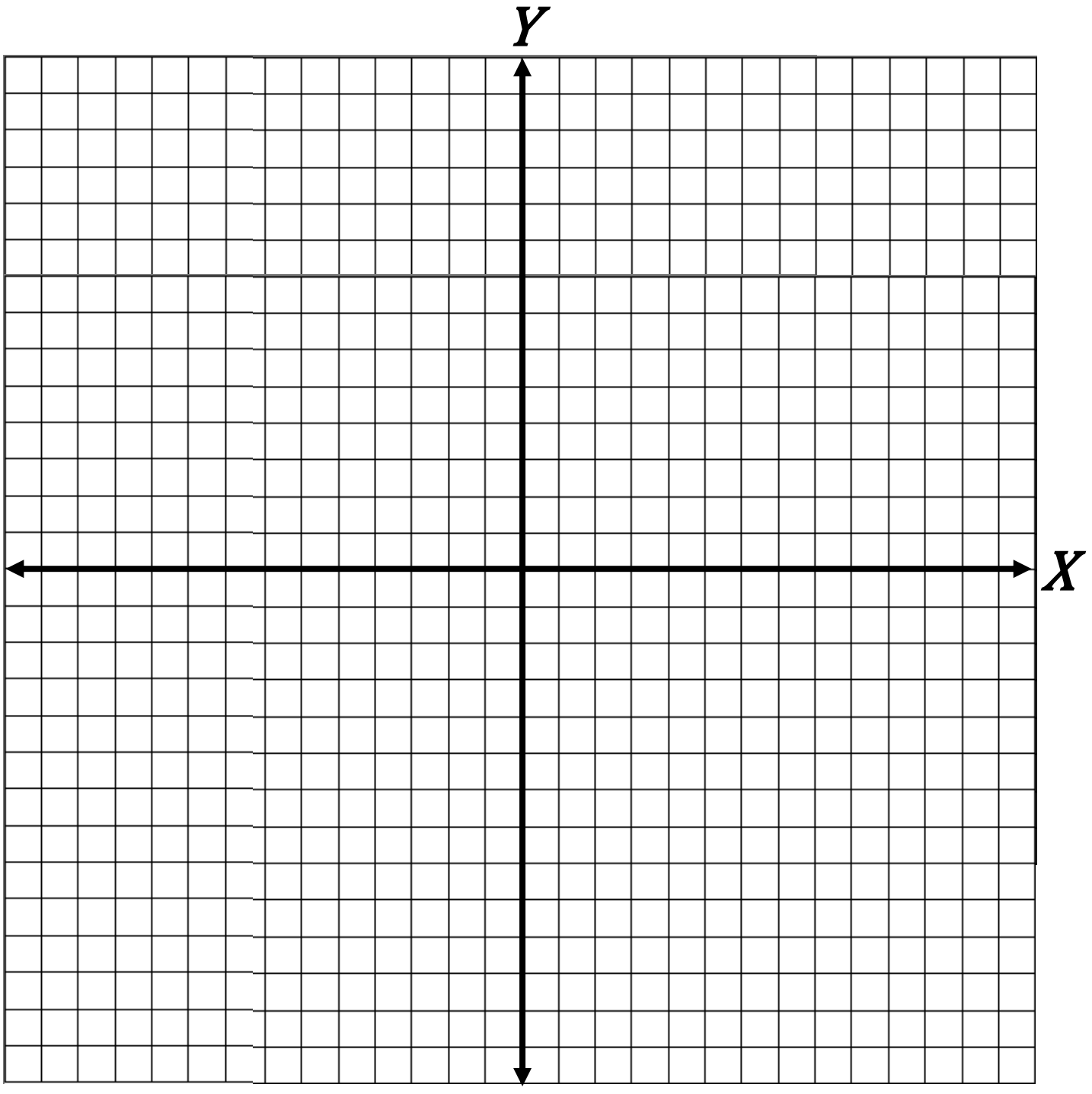
STEP 4: Company 1 says that they will complete the job for $12 per foot of fencing. Company 2 says that they will charge you $250 for the first 100 feet of fencing and $15 for each additional foot. Determine the cost of fencing for both companies.

STEP 5: Figure out which company will complete the job for the least amount of money.

Name: _____ Block: _____ Date: _____

Graph of Your Property Lines

Plot the points that represent the trees that mark the edges of your property. Use the locations given on the previous page. To make things easier, use the origin (0, 0) as the position of your house. Remember that each grid represents 10 feet. Finally, connect the points using a straightedge.



Name: _____ Block: _____ Date: _____

Break your property into smaller parts and use the Pythagorean Theorem to find the length of each side. Remember that each grid line on your graph represents 10 feet. Also remember to round to the nearest hundredth if necessary. Show your work below.

Work for the distance from **Tree 1 to Tree 2** Distance: _____ ft	Work for the distance from **Tree 2 to Tree 3** Distance: _____ ft
Work for the distance from **Tree 3 to Tree 4** Distance: _____ ft	Work for the distance from **Tree 4 to Tree 5** Distance: _____ ft
Work for the distance from **Tree 5 to Tree 1** Distance: _____ ft	Work for the **Perimeter of Your Property** Perimeter: _____ ft

- Company 1 charges $12 per foot of fence. Find the cost if Company 1 completes the job. Show work!

  Cost: $ _____

- Company 2 charges $4600 for the first 550 feet of fence and $29 for each additional foot. Find the cost if Company 2 completes the job. Show work!

  Cost: $ _____

- Both companies must charge a 6% sales tax. Determine which company will be the cheapest. Then, find the cost including tax. Round to the nearest cent. Show work!

  Company _____

  Cost: $ _____