

A farmer has 2400 feet of fencing to fence off a rectangular field that borders a river. He needs no fence along the river.

1. What is the area of the field if the length of fence opposite the river is 2000 feet?
2. What is the area of the field if the length of the fence opposite the river is 1000 feet?
3. What is the area of the field if the length of the fence opposite the river is x feet?
4. What are the dimensions of the field that has the greatest area?