

Min-Max Word Problems

1. Of all the numbers whose sum is 50, find the two that have the maximum product.
What is the maximum product?
2. You want to build a dog run attached to your house. You have 60 feet of fencing and want a rectangular run with the **biggest area** possible for the dog. Find the dimensions of the run.
3. An apple farm yields an average of 50 bushels of apples per tree when 15 trees are planted on an acre of ground. Each time 1 more tree is planted per acre, the yield decreases by 2 bushels per tree as a result of crowding. How many total trees should be planted on an acre in order to get the **highest yield**?"
4. An apple farm yields an average of 30 bushels of apples per tree when 25 trees are planted on an acre of ground. Each time 1 more tree is planted per acre, the yield decreases by 2 bushels per tree as a result of crowding. How many total trees should be planted on an acre in order to get the **highest yield**?"
5. The NCAA wants to determine ticket prices for next year's Women's Soccer National Championship. From previous years, it is known that at a price of \$6.35 per ticket, the average attendance is 3000 people per game. For each decrease of \$1 in the ticket price, attendance rises by 200 people per game. Every person at the game spends an average of \$1.25 on concessions. What price per ticket should be charged in order to **maximize revenue**? How many people will attend at that price? What is the maximum revenue?