

Farmer Frank has a herd of 115 cows. He wants to build a square or rectangular fence to keep his herd in. He has 24 fence posts. Each post is one unit long. Because he also wants to build a garden on his land as well, he wants to build a fence with the **smallest possible area** to hold all the cows in his herd. Each square unit will hold 4 cows.

 What are all of the possible configurations (dimensions) that Farmer Frank could build his fence? Build on separate piece of paper. 2. How do you know you got all of the possible configurations?

3. Which configuration will work the best for Farmer Frank? Justify your thinking.

4. If Farmer Frank's entire land for building is 60 square units, how much land will he have left for his garden? Show your work.