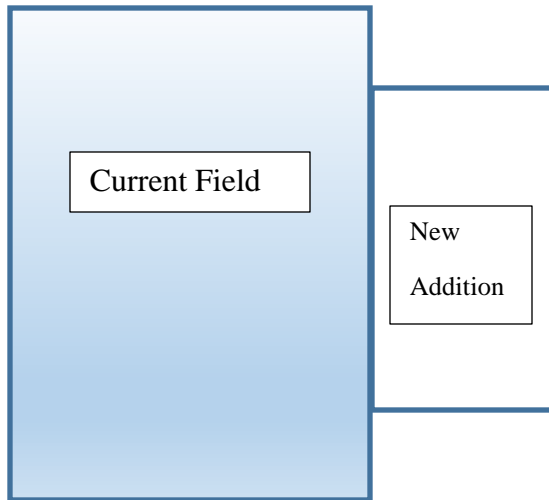


Challenge Problem – Maximizing Area with Quadratics



A cattle farmer is building an additional fenced in area next to one of his current fields. The new addition will use the existing fence of the current field for one of its four sides. The remaining 3 sides will be constructed from new materials. He currently has 1500 linear feet of fencing supplies that he will use to build the new area.

- 1) What is the largest area he can produce using the supplies he has on hand?
- 2) What dimensions should the new field be to produce the maximum area?