Many real life applications are modeled with functions.

Example 1: A rancher has 360 yards of fencing with which to enclose two adjacent rectangular corrals, one for sheep and one for cattle. A river forms one side of the corrals. Suppose the width of each corral is $x$ yards.

a. Express the total area of the two corrals as a function of $x$.

b. Find the domain of the function.

c. Using a graph on your calculator, determine the dimensions that yield the maximum area.

d. Determine the maximum area.