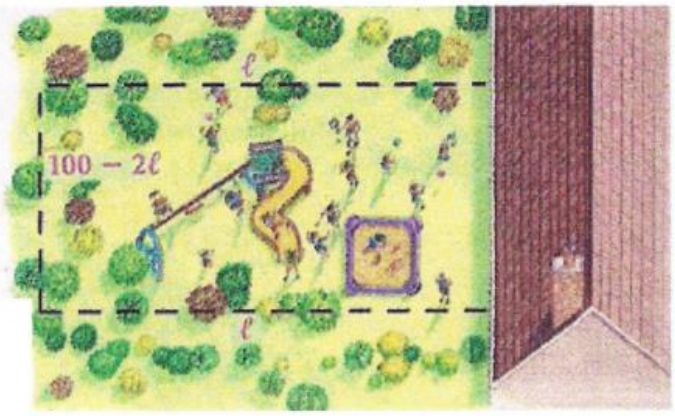
4-2 Vertex Form Word Problem Notes

Landscape Design A town is planning a child-care facility. It wants to fence in a playground area using one of the walls of the building. What is the largest playground area that can be fenced in using 100 ft of donated fencing?



Equations that Apply:

Since we are ***maximizing area***, rewrite the ***area*** formula so that it only uses 2 variables and put it in vertex form.

Standard Form ($y = ax^2 + bx + c$):

Identify the variables: Independent (x) Dependent (y)

Vertex Form ($y = a(x - h)^2 + k$ where $h = \frac{-b}{2a}$):

Remember (h, k) is the ordered pair (x, y) maximum/minimum value. Therefore, the largest playground area is k, _____. (h, k)

$(h, k) = (\quad , \quad)$