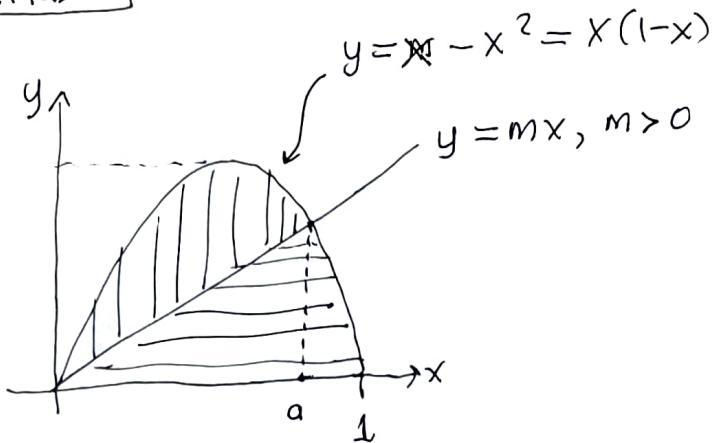


6. Plus. 2



Goal: Determine value of slope m which divides the area under the parabola in half.

If we set up separate integrals for the top region and the bottom region (requiring a sum of two integrals), we get an unnecessarily complicated problem.

It is better to first evaluate the total area and set the upper integral equal to half that value.

But first we have to determine the value $x=a$ where the two curves intersect (easy).

The above condition then leads to an easily solved equation for m .

Try it.