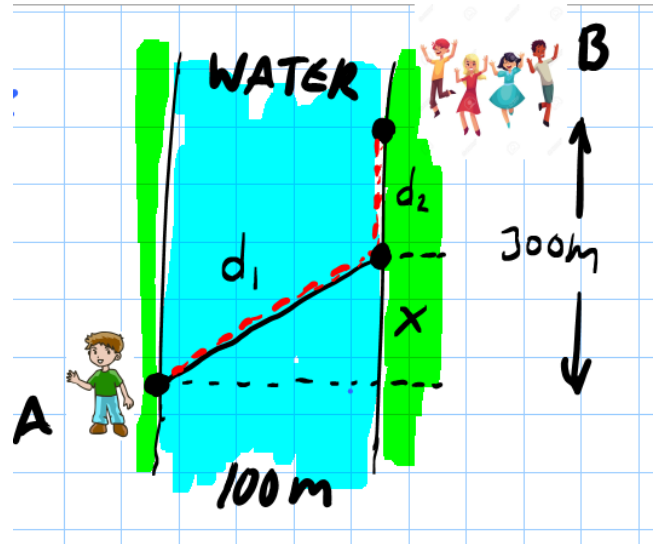


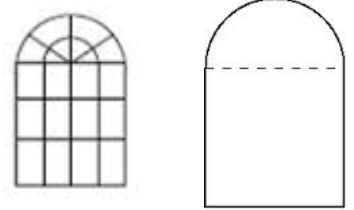
1. You are standing on the bank of a river that is 100m wide, and see a party 300m up the opposite shore. You can swim at 3m/s and run at 5m/s, and you want to get to the party as quickly as possible. To what point on the opposite shore should you swim, before running the rest of the way? What should the x value shown be?

Notes:

- Look at the solutions and example video
- The problem is asking: What path do you need to take to minimize TIME.
- Time is your objective equation.



2. A Norman window has the shape of a rectangle with a semicircle on top. If a Norman window is to have a perimeter of 28 ft. what dimensions will maximize the area of the window?



radius r

$$C = 2\pi r$$

$$A = \pi r^2$$

