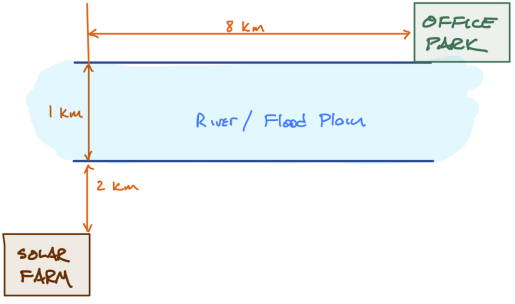
1. A cable is to be run from a solar farm on one side of a river to an office park on the other side.



It costs \$40K per km to run the cable on the solar farm side of the river, \$45K per km to run the cable under the river/flood plain, and \$35K per km to run the cable on the office park side of the river.

What is the most economical way to lay the cable?

2. Bob's Red Mill is redesigning the shipping box for their steel cut oats

The box will be made out of cardboard with the bottom reinforced with a second layer of cardboard. If the total volume of the box is 12 liters, what are the dimensions that will require the least cardboard?

It may be useful to recall that 1 liter $= 1000$ cm^3