Suppose you had a mixture of 2 moles of methanol and 1 mole of ethanol at a particular temperature. The vapour pressure of pure methanol at this temperature is 81 kPa, and the vapour pressure of pure ethanol is 45 kPa.

There are 3 moles in the mixture in total.

2 of these are methanol. The mole fraction of methanol is 2/3.

Similarly, the mole fraction of ethanol is 1/3.

You can easily find the partial vapour pressures using Raoult's Law - assuming that a mixture of methanol and ethanol is ideal.

First for methanol:

p_{methanol} =
$$rac{2}{3}$$
x81
= 54 kPa

... and then for ethanol: