**Methods for solving genetic crosses**

1- Punnett square method:

It is exhausting method and need long time and may have more probabilities for fault solution.

2- Branching method:

It is the easier method to detect the type and kind of gametes which produce from a special genotype.

Example..

Type of gametes from a different genotypes:

½A

1- Aa ……………… Aa

½a

2- AA ……………… AA 1/1 A

½B = ¼AB

½A

½b = ¼Ab

3- AaBb …………… Aa

½B = ¼aB

½a

½b = ¼ab

To get the formed genotype and their percentage, we must separate the crossing either dihybrid or polyhybrid to a unify crosses (monohybrid), and the used the branching method.

**Aa x Bb**

¼AA ¼BB

Aa x Aa ½ Aa Bb x Bb ½ Bb

¼aa ¼bb

¼ BB = AABB

¼ AA ½ Bb = AABb

¼ bb = AAbb

¼ BB = AaBB

½ Aa ½ Bb = AaBb

¼ bb = Aabb

¼ BB = aaBB

¼ aa ½ Bb = aaBb

¼ bb = aabb