**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 = $\frac{1}{16}$ AABB

 ¼ AA ½ Bb = $\frac{1}{8}$ AABb

 ¼ bb = $\frac{1}{16}$ AAbb

 ¼ BB = $\frac{1}{8}$ AaBB

 ½ Aa ½ Bb = $\frac{1}{4}$ AaBb

 ¼ bb = $\frac{1}{8}$ Aabb

 ¼ BB = $\frac{1}{16}$ aaBB

 ¼ aa ½ Bb = $\frac{1}{8}$ aaBb

 ¼ bb = $\frac{1}{16}$ aabb