Problem 1: Dihybrid Cross

When a genetic cross involves the consideration of two factors (such as shape and color in pea seeds), the cross is called a "dihybrid".

Use alleles provided: Cross 2 <u>completely heterozygous round/yellow</u> seed plants.

R = round seeds,   r = wrinkled seeds
Y = yellow seeds,   y = green seeds

1. <u>Write Parents Genotype in Cross Box.</u>
   Do NOT put spaces between paired genes
   DO put **one space** on either side of the "x" sign
   (ie. RrTT x rrTt for a dihybrid)

   Cross: [   ]

2. Solve: How many offspring will be round seed/yellow seed? [   ]
3. Solve: How many offspring will be round seed/green seed? [   ]
4. Solve: How many offspring will be wrinkled seed/yellow seed? [   ]
5. Solve: How many offspring will be wrinkled seed/green seed? [   ]
6. Write the ratio of crossing 2 heterozygous parents.

[   ]

Write Parent Gametes →	[ ] 1	[ ] 2	[ ] 3	[ ] 4
[ ] 5	[ ] 6	[ ] 7	[ ] 8	[ ] 9
[ ] 10	[ ] 11	[ ] 12	[ ] 13	[ ] 14
[ ] 15	[ ] 16	[ ] 17	[ ] 18	[ ] 19
[ ] 20	[ ] 21	[ ] 22	[ ] 23	[ ] 24

Problem 2: Dihybrid Cross

When a genetic cross involves the consideration of two factors (such as shape and color in pea seeds), the cross is called a "dihybrid".

Use alleles provided: Cross a **completely heterozygous round/yellow** seeded plant with a **homozygous dominant round/green** seeded plant.

R = round seeds,   r = wrinkled seeds
Y = yellow seeds,   y = green seeds

1. **Write 1st Parent x 2nd Parent Genotype**
   Do NOT put spaces between paired genes
   DO put **one space** on either side of the "x" sign
   (ie. **RrTT x rrTt** for a dihybrid)

   Cross: [ ]

2. Solve: What percent will be round/yellow seeds? [ ]
3. Write the phenotype of offspring #9. [ ]
4. Write the genotype of offspring #13. [ ]

Write Parent ↓ Gametes →	[ ] 1	[ ] 2	[ ] 3	[ ] 4
[ ] 5	[ ] 6	[ ] 7	[ ] 8	[ ] 9
[ ] 10	[ ] 11	[ ] 12	[ ] 13	[ ] 14
[ ] 15	[ ] 16	[ ] 17	[ ] 18	[ ] 19
[ ] 20	[ ] 21	[ ] 22	[ ] 23	[ ] 24