Dihybrid Cross Practice Problems

1. Set up a Punnett square using the following information:
   - Dominate allele for tall plants = D
   - Recessive allele for dwarf plants = d
   - Dominate allele for purple flowers = W
   - Recessive allele for white flowers = w

   Cross a homozygous dominant parent with a homozygous recessive parent.

   _____ X _____

Using the Punnett square above:
   a. What is the probability of producing tall plants with purple flowers?

      Possible genotype(s)?

   b. What is the probability of producing dwarf plants with white flowers?

      Possible genotype(s)?

   c. What is the probability of producing tall plants with white flowers?

      Possible genotype(s)?

   d. What is the probability of producing dwarf plants with purple flowers?

      Possible genotype(s)?

2. Set up a Punnett square using the following information:
   - Dominate allele for black fur in guinea pigs = B
   - Recessive allele for white fur in guinea pigs = b
   - Dominate allele for rough fur in guinea pigs = R
   - Recessive allele for smooth fur in guinea pigs = r

Cross a heterozygous parent with a heterozygous parent.

_____ X _____

Using the Punnett square above:
   a. What is the probability of producing guinea pigs with black, rough fur?

   Possible genotype(s)?

   b. What is the probability of producing guinea pigs with black, smooth fur?

   Possible genotype(s)?

   c. What is the probability of producing guinea pigs with white, rough fur?

   Possible genotype(s)?

   d. What is the probability of producing guinea pigs with white, smooth fur?

   Possible genotype(s)?

3. Set up a Punnett square using the following information:
- Dominate allele for purple corn kernels = R
- Recessive allele for yellow corn kernels = r
- Dominate allele for starchy kernels = T
- Recessive allele for sweet kernals = t

Cross a homozygous dominant parent with a heterozygous parent.

_____ X _____

Using the Punnett square above:
a. What is the probability of producing purple, starchy corn kernels?

   Possible genotype(s)?

b. What is the probability of producing yellow, starchy corn kernels?

   Possible genotype(s)?

c. What is the probability of producing purple, sweet corn kernels?

   Possible genotype(s)?

d. What is the probability of producing yellow, sweet corn kernels?

   Possible genotype(s)?

3. Set up a Punnett square using the following information:
   - Dominate allele for normal coat color in wolves = N
   - Recessive allele for black coat color in wolves = n
   - Dominant allele for brown eyes = B
   - Recessive allele for blue eyes = b

Cross a heterozygous dominant parent with a homozygous recessive parent.

_____ X _____

Using the Punnett square above:
   a. What is the probability of producing a wolf with a normal coat color with brown eyes?

   Possible genotype(s)?

   b. What is the probability of producing a wolf with a normal coat color with blue eyes?

   Possible genotype(s)?

   c. What is the probability of producing a wolf with a black coat with brown eyes?

   Possible genotype(s)?

   d. What is the probability of producing a wolf with a black coat with blue eyes?

   Possible genotype(s)?