

1. In snapdragons, the color of the flower is controlled by incomplete dominance. The two alleles are red (R) and white (r). What is genotype of a pink snapdragon?

Answer Choice	Feedback
A. rr	Incorrect. This snapdragon would be white.
B. RR	Incorrect. This snapdragon's phenotype would be red.
C. Rr	Correct! Since the snapdragon is controlled by incomplete dominance, one allele for red (R), and one for white (W), would result in a pink flower.
D. Rw	Incorrect. This is not written correctly

2. If a pink-flowered plant is crossed with a white-flowered plant what is the probability of producing a pink-flowered plant ? (*Hint: Draw a punnett square to help you answer the question*)

Answer Choice	Feedback
A. 25%	Incorrect. The genotype for the pink flower is Rr and the genotype for the white flower is rr. This would lead to a 50% chance of the offspring having a phenotype of pink.
B. 50%	Correct! The genotype for the pink flower is Rr and the genotype for the white flower is rr. This would lead to a 50% chance of the offspring having a phenotype of pink.
C. 75%	Incorrect. The genotype for the pink flower is Rr and the genotype for the white flower is rr. This would lead to a 50% chance of the offspring having a phenotype of pink.
D. 0%	Incorrect. . The genotype for the pink flower is Rr and the genotype for the white flower is rr. This would lead to a 50% chance of the offspring having a phenotype of pink.

3. Bernadette is blood type O. She has two sisters. One sister has blood type A and the other has blood type B. Using this information and your knowledge of how blood type is determined, determine the genotypes of Bernadette's parents for this trait.

Answer Choice	Feedback
A. $I^A i, I^B i$	Correct! The genotype for type O blood (Bernadette's type) is "ii", so both parents must have at least on "i". Since one sister is type B, one parent must have the I^B allele. Since, the other sister is type A, then one parent must have the I^A allele.
B. $I^A I^A, I^A I^A$	Incorrect. This would result in children with only type A blood.
C. $I^B I^B, I^B I^B$	Incorrect. This would result in children with only type B blood
D. $I^B i, I^B i$	Incorrect. This would result in offspring with either type O blood or type B.

4. The expectant mom has Type O blood and a dad has Type AB blood. What are the possible blood types for their offspring?

Answer Choice	Correct Answer Feedback	Incorrect Answer Feedback
A. 50% heterozygous with blood Type A, and 50% homozygous with blood Type O	Incorrect. Type O blood must have the homozygous genotype of "ii" and since dad's blood type is AB, then his genotype is I ^A I ^B	
B. 25% heterozygous with blood Type A and 75% heterozygous with blood type B	Incorrect. Type O blood must have the homozygous genotype of "ii" and since dad's blood type is AB, then his genotype is I ^A I ^B	
C. 25% heterozygous with blood Type B and 75% heterozygous with blood type A	Incorrect. Type O blood must have the homozygous genotype of "ii" and since dad's blood type is AB, then his genotype is I ^A I ^B	
D. 50% heterozygous with blood Type A and 50% heterozygous with blood Type B	Correct! Type O blood must have the homozygous genotype of "ii" and since dad's blood type is AB, then his genotype is I ^A I ^B	