

Answer to iClicker Question 2A

The genotype of the F_1 purples is Pp . The whites can only be pp . $Pp \times pp$ gives $\frac{1}{2} Pp$ and $\frac{1}{2} pp$ for a 1:1 ratio of $Pp:pp$ or 1:1 purple:white. Therefore, the only correct answer is E.

Answer to iClicker Question 2B

There are many ways to solve this problem, one is to work backwards from Fred. He is $I^B I^B$ or $I^B i$. In either case, he has at least one I^B allele. The only parent who could have given it to him is his Mom (she is $I^A I^B$ and his Dad has no I^B allele - otherwise he'd be type AB). Therefore, he got the other allele (I^B or i) from his Dad. Since his Dad is type A, his Dad could not have given Fred an I^B allele, so his Dad must have given Fred an i allele. Therefore:

Mom = $I^A I^B$ Dad = $I^A i$ Fred = $I^B i$

So C is the only correct answer.