

Use the following information to answer

In peas, the allele for round seeds ( $R$ ) is dominant to that for wrinkled seeds ( $r$ ); the allele for yellow seeds ( $Y$ ) is dominant to that for green seeds ( $y$ ). These loci are unlinked. Plants from a true-breeding line with round, green seeds are crossed with plants from a true-breeding line with wrinkled, yellow seeds. These parents constitute the P generation.

1. The genotypes of the P generation are (a)  $RRrr$  and  $Yyyy$ , (b)  $RrYy$ , (c)  $RRYY$  and  $rryy$ , (d)  $RRyy$  and  $rrYY$ , (e)  $RR$  and  $YY$ .
2. What are the expected genotypes of the F1 hybrids produced by the described cross? (a)  $RRrr$  and  $Yyyy$ , (b) all  $RrYy$ , (c)  $RRYY$  and  $rryy$ , (d)  $RRyy$  and  $rrYY$ , (e)  $RR$  and  $YY$
3. What kinds of gametes can the F1 individuals produce? (a)  $RR$  and  $YY$ , (b)  $Rr$  and  $Yy$ , (c)  $RR$ ,  $rr$ ,  $YY$ , and  $yy$  (d)  $R$ ,  $r$ ,  $Y$  and  $y$  (e)  $RY$ ,  $Ry$ ,  $rY$ , and  $ry$