1. A heterozygous, smooth pea pod, plant is crossed with a wrinkled pea pod plant. *There are two alleles for pea pod, smooth and wrinkled.* **Predict the offspring from this cross.**

a. What is the the genotype of the parents? Ss ss

b. Set up a Punnett square with possible gametes.

	S	s
s	Ss	ss
s	Ss	ss

c. Fill in the Punnett square for the resultant offspring.

d. What is the predicted genotypic ratio for the offspring ? 1:1

e. What is the predicted phenotypic ratio for the offspring ? 1:1

f. If this cross produced 50 seeds how many would you predict to have a wrinkled pod? 25

2. In humans, acondroplasia "dwarfism" (D) is dominant over normal (d). A homozygous dominant (DD) person dies before the age of one. A heterozygous (Dd) person is dwarfed. A homozygous recessive individual is normal. A heterozygous dwarf man marries a dwarf heterozygous woman.....

	D	d
D	DD	Dd
d	Dd	dd

a. What is the probability of having a normal child? 25%

b. What is the probability that the next child will **also** be normal? 25%

b. What is the probability of having a child that is a dwarf? 75%

b. What is the probability of having a child that dies at one from this disorder? 25%

3. In humans, free earlobes (F) is dominant over attached earlobes (f). If one parent is homozygous dominant for free earlobes, while the other has attached earlobes can they produce any children with attached earlobes? NO

	F	F
f	Ff	Ff
f	Ff	Ff

4. In humans widow's peak (W) is dominant over straight hairline (w). A heterozygous man for this trait marries a woman who is also heterozygous.

	W	w
w	WW	Ww
w	Ww	ww

a. List possible genotypes of their offspring.

WW, Ww, ww

a. List the phenotypic ratio for their children.

3:1