Answer Sheet: Genetics Worksheet-- Handout 1

1. c. homozygous, recessive
   d. homozygous, recessive
   e. heterozygous
   f. homozygous, dominant

2. a. brown eyes
   b. blue eyes
   c. brown eyes

3. a. (S-smooth pea pod   s- wrinkled pea pod) P generation = Ss X ss
   b.+ c.

	S	s
s	**Ss**	**ss**
s	**Ss**	**ss**

   d. 1 : 1   Ss : ss
   e. 1 : 1   smooth : wrinkled
   f. prediction: 25 seeds would have a wrinkled pod

4. a. (F- freckles f- no freckles) cross= Ff X Ff

	F	f
F	**FF**	**Ff**
f	**Ff**	**ff**

   b. There is a 25% chance that their first child will have no freckles.
   c. 1 : 2 : 1   FF:Ff:ff

5. (F-free ear lobe f-attached ear lobe) cross= FF X ff

	F	F
f	**Ff**	**Ff**
f	**Ff**	**Ff**

   No, based on the Punnett square, they can only produce children heterozygous for free ear lobes. Therefore, all their children will have free ear lobes, but be a carrier for the attached ear lobe gene.