**Unit 7 Topic 2 Review**

1. Define incomplete dominance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Define codominance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The lubber grasshopper is a very large grasshopper, and is black with red and yellow stripes. Assume that red stripes are expressed from the [homozygous](http://www.ksu.edu/biology/pob/genetics/defin.htm#hom) RR [genotype](http://www.ksu.edu/biology/pob/genetics/defin.htm#gen), yellow stripes from the homozygous rr genotype, and both from the [heterozygous](http://www.ksu.edu/biology/pob/genetics/defin.htm#het) genotype.
4. Is this incomplete or complete dominance? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What will be the [phenotypic ratio](http://www.ksu.edu/biology/pob/genetics/defin.htm#phent) and genotypic ratio of the [F1 generation](http://www.ksu.edu/biology/pob/genetics/defin.htm#f1) resulting from a cross of two grasshoppers, both with red and yellow stripes?
6. What would the phenotype and genotype ratios of the offspring be if a grasshopper with both color stripes is crossed with a grasshopper with yellow stripes only?
7. Yellow fruit and dwarf vines are recessive traits in tomatoes. Red fruit and tall vines are dominant. Complete a Punnett square and answer the questions for a completely dominant red and tall plant crossed with a heterozygous red and dwarf plant.

Parent genotypes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# of offspring red and tall: \_\_\_\_\_\_\_\_\_\_\_\_

# of offspring yellow and tall: \_\_\_\_\_\_\_\_\_\_\_\_

# of offspring red and short: \_\_\_\_\_\_\_\_\_\_\_\_

# of offspring yellow and short: \_\_\_\_\_\_\_\_\_\_\_\_

1. John has type O blood. He knows his mother had type B blood. He does not know the identity of his father, however. What possible blood types could his father have had? Show your work.
2. A wealthy elderly couple dies together in an accident. A man comes forward, claiming that he is their long lost son and is entitled to their fortune. The couple were of blood types AB and O. The man has type O blood. Could he be the heir to the fortune? Show why or why not.
3. A cross between a black cat and a tan cat produces a tabby pattern (black and tan together).
	1. What pattern of inheritance does this exhibit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Cross a tabby cat with a tan cat. What could the kittens be?