**What is the probability?**  
 If parent genome = AaBBCcDd   
What is the probability of producing a gamete with this gene combination?  
 ABCD \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

abcD \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
 ABcd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
 If parent genome = AaBbCcDd   
What is the probability of producing a gamete with this gene combination?  
 ABcd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

aBcD\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

AaBbCcDd X AaBbCcDd parent genotypes

What is the probability of producing an offspring with this gene combination?

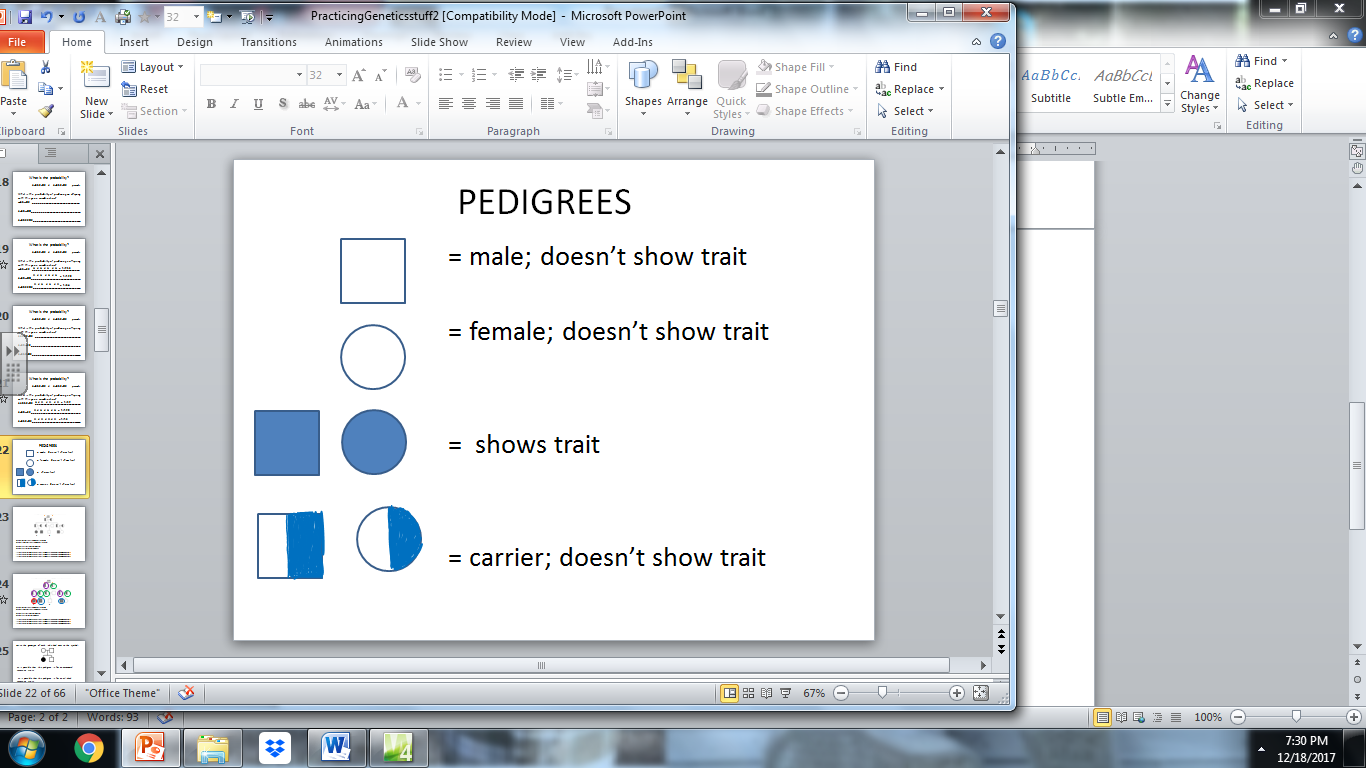
aabbccDd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

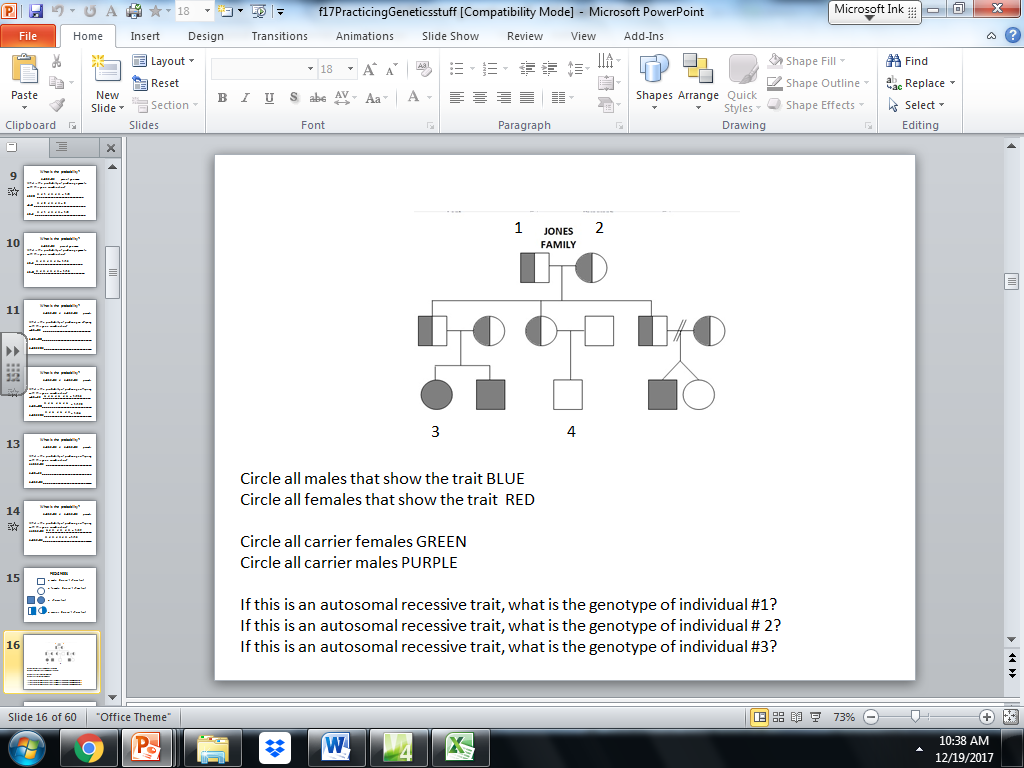
AaBBccDD\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AaBBCCDd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AABbCcDd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AaBbCcDd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_





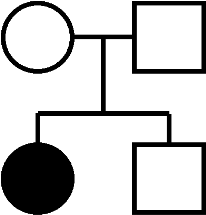
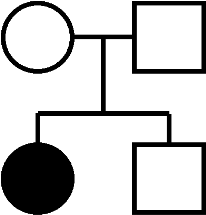
Circle all males that show the trait BLUE  
Circle all females that show the trait RED

Circle all carrier females GREEN  
Circle all carrier males PURPLE

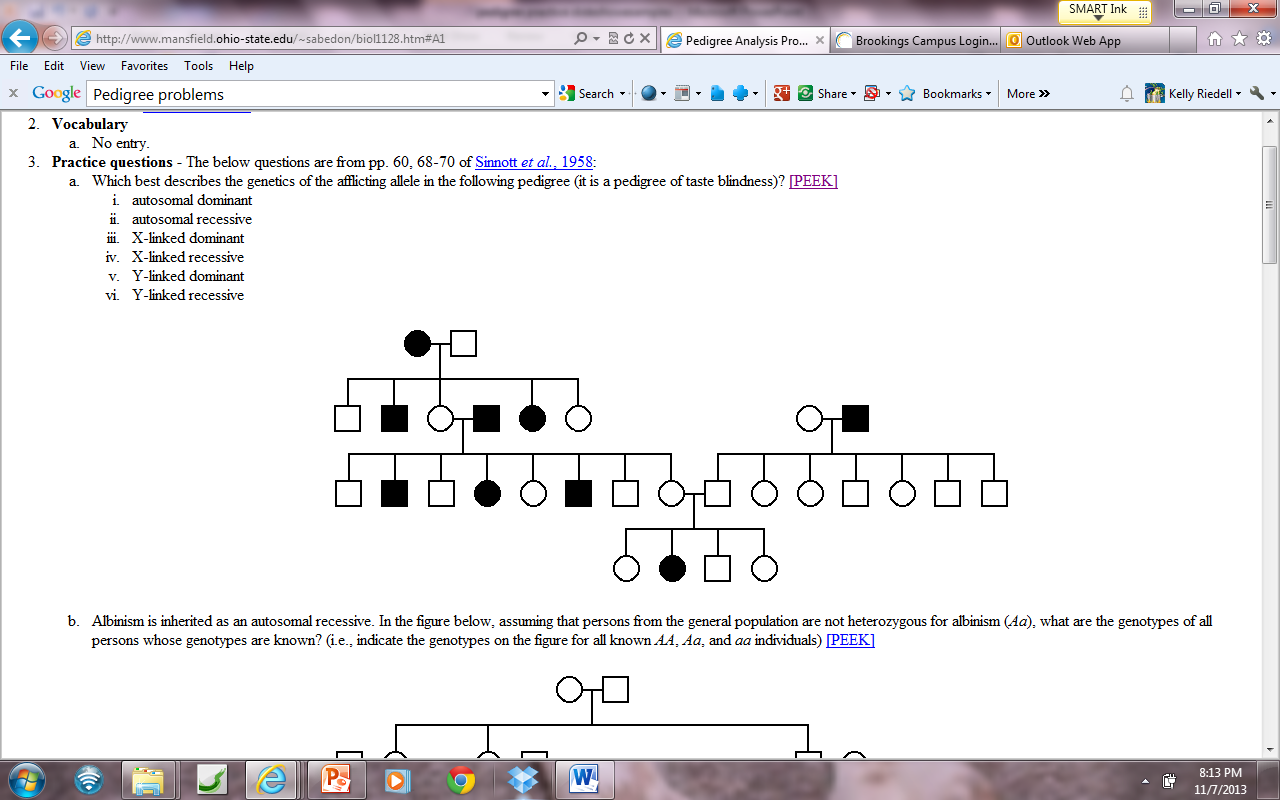
If this is an autosomal recessive trait, what is the genotype of individual #1?  
If this is an autosomal recessive trait, what is the genotype of individual # 2?  
If this is an autosomal recessive trait, what is the genotype of individual #3?  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

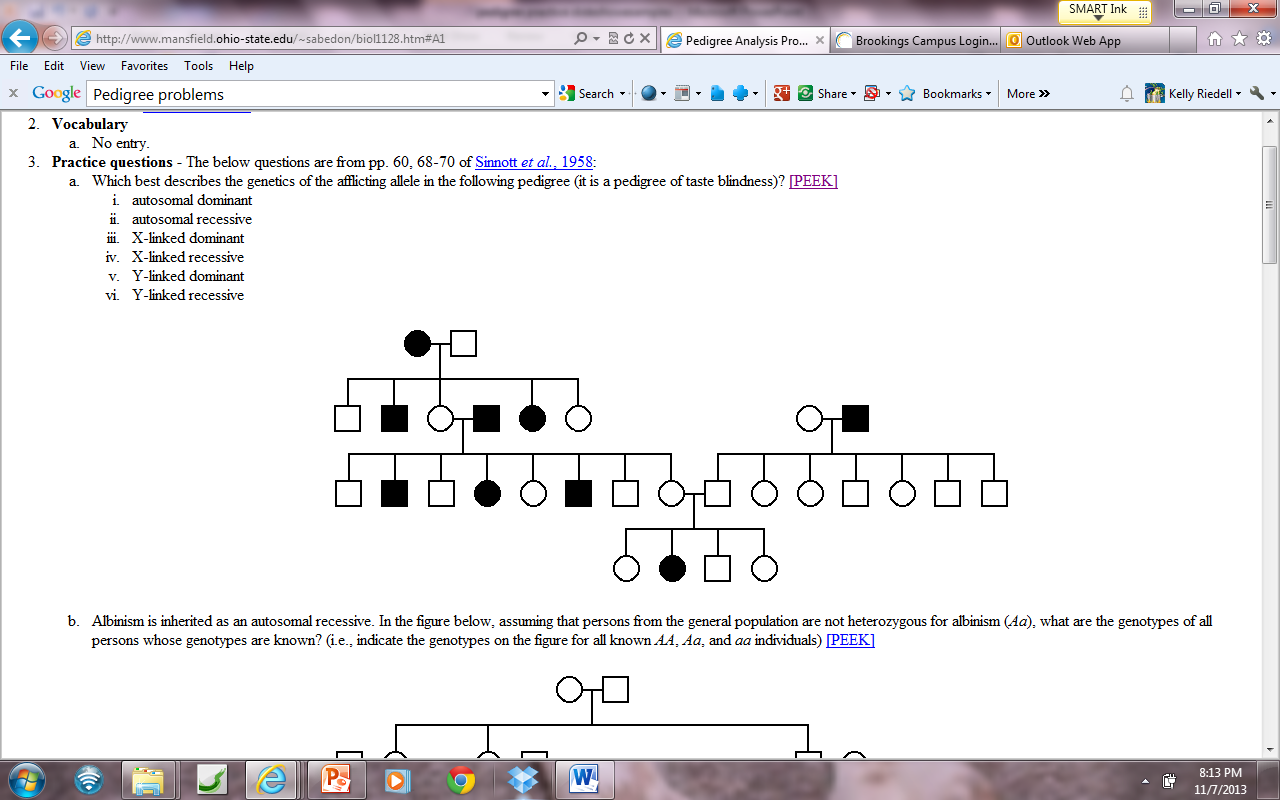
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Write the genotype of each individual next to the symbol.

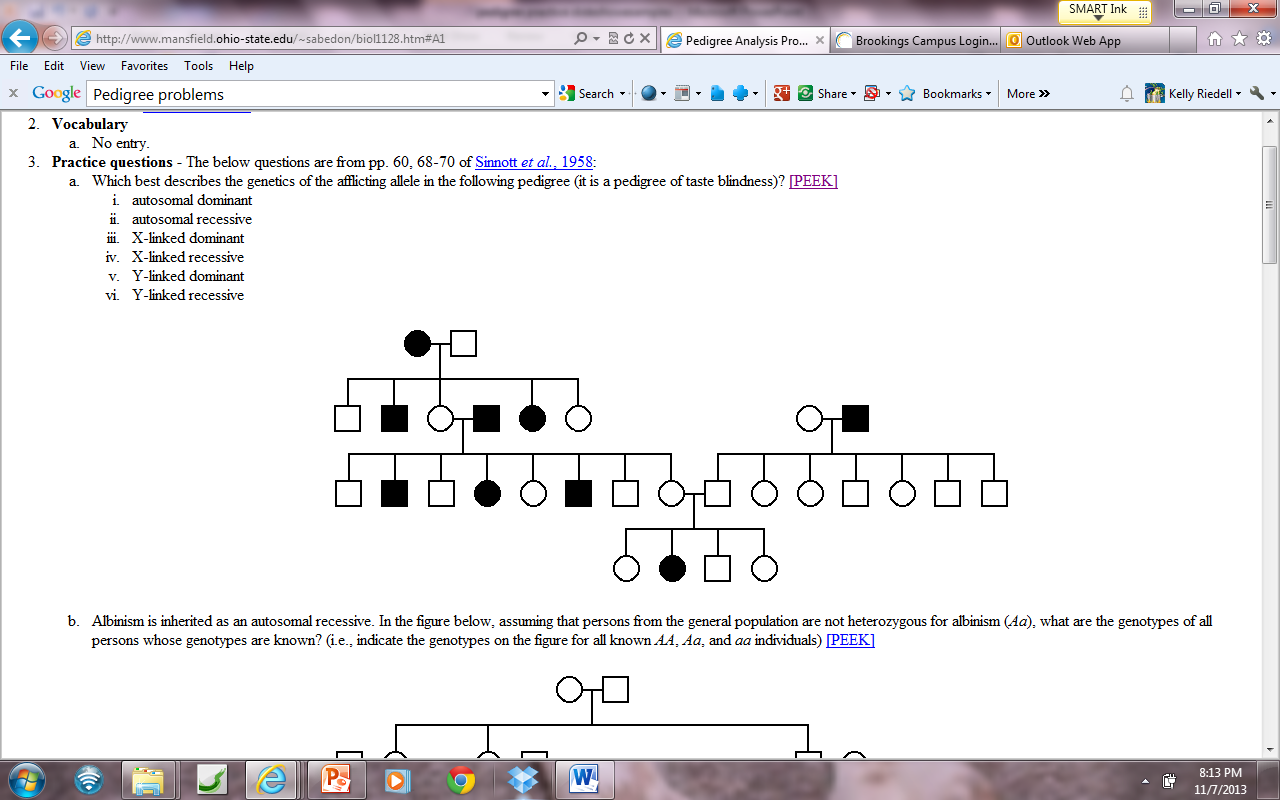


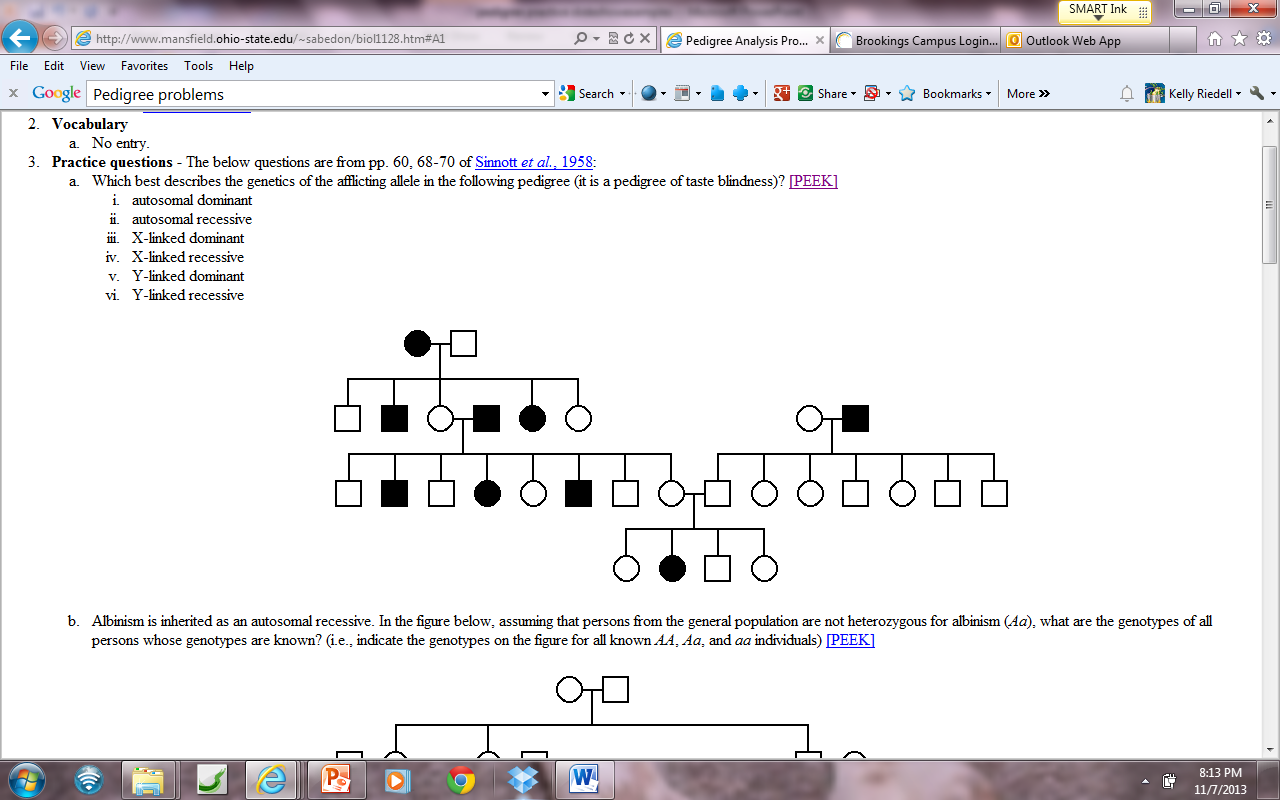
Is it possible that this pedigree is Is it possible that this pedigree is  
for an autosomal recessive trait? for an X-linked recessive trait?  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
Is it possible that this pedigree is for an autosomal recessive trait?



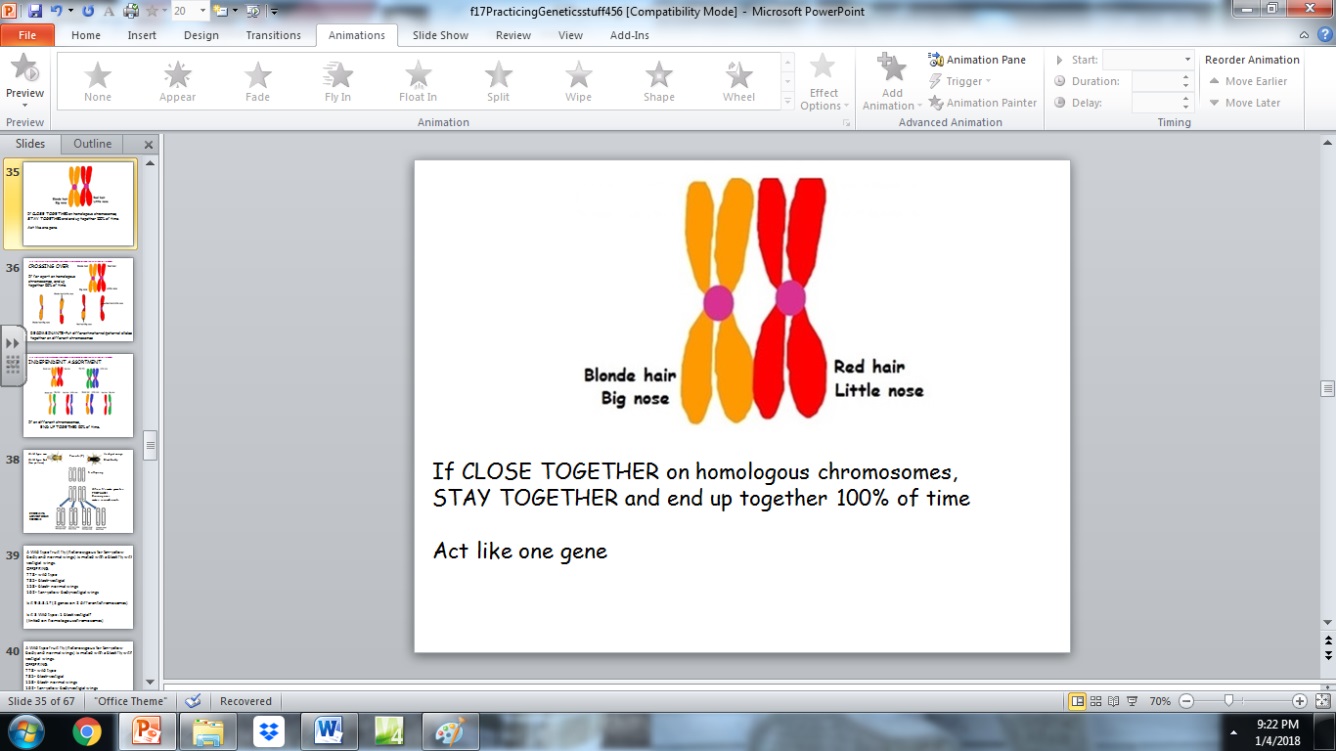
  
  
  
  
  
  
  
  
  
Is it possible that this pedigree is for an autosomal dominant trait?

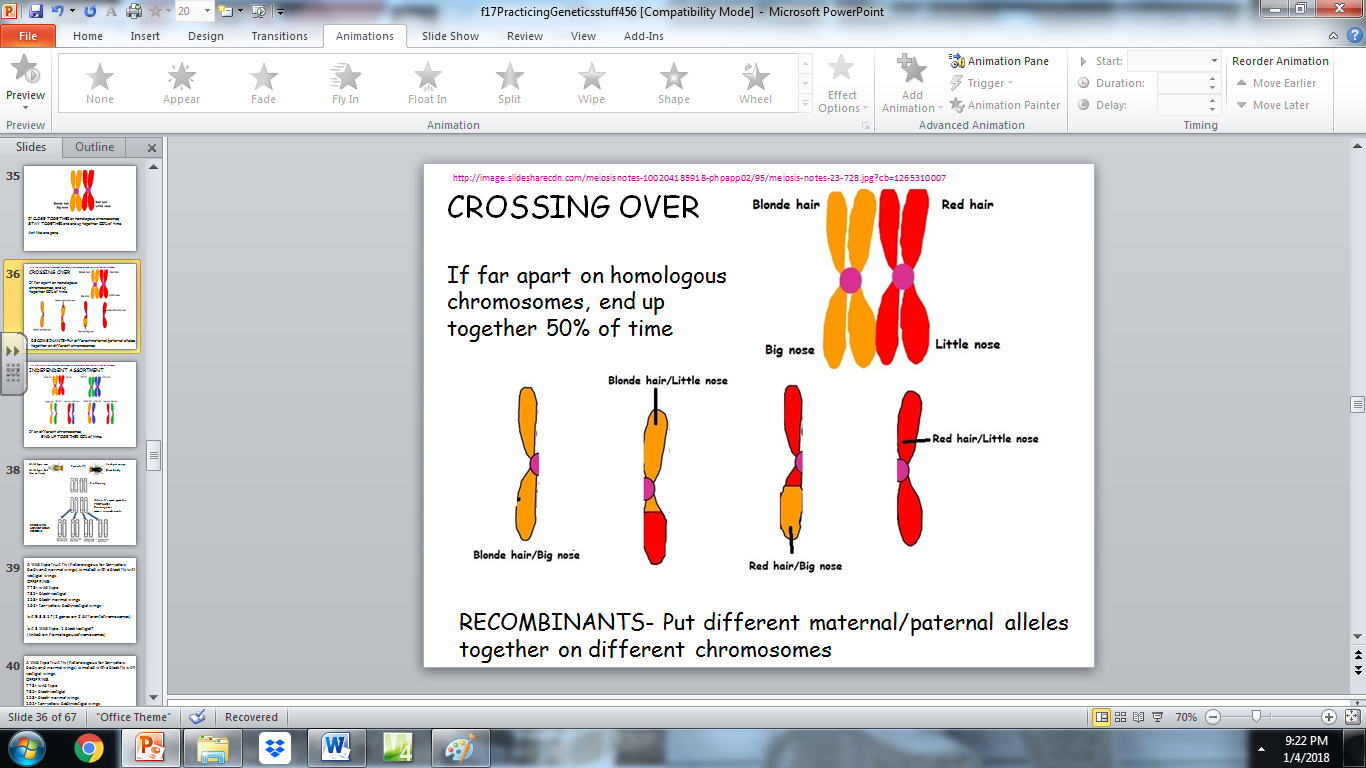
Is it possible that this pedigree is for an X-linked recessive trait?

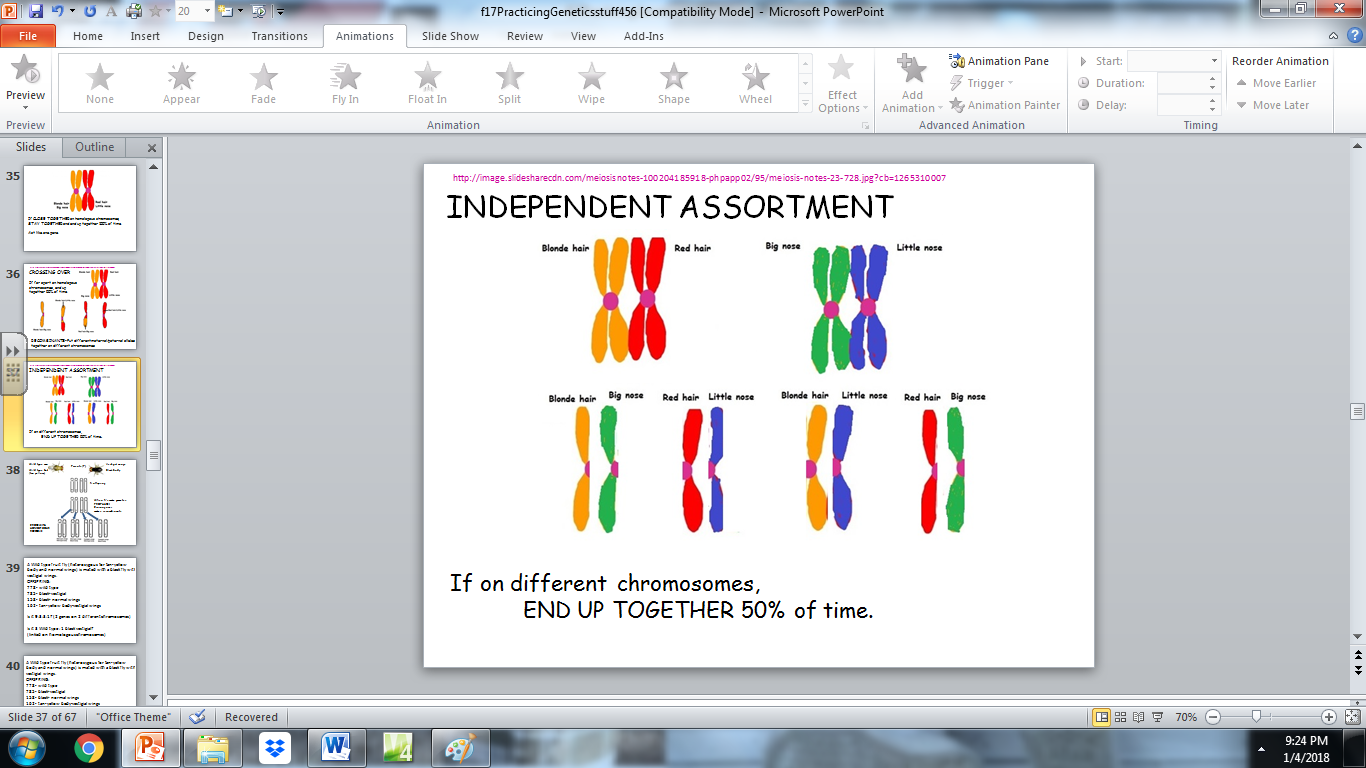
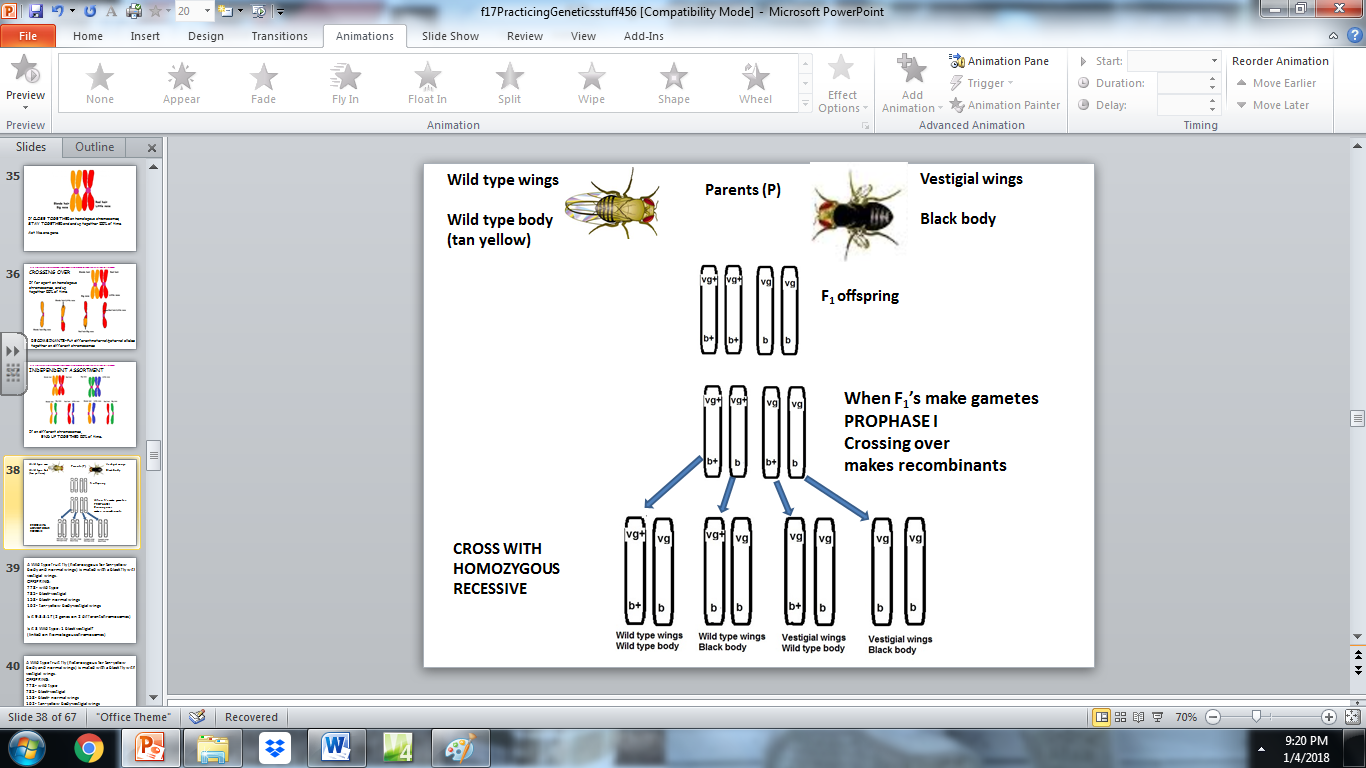


  
  
  
  
  
  
  
  
  
Is it possible that this pedigree is for an X-linked dominant trait?

**CROSSING OVER FREQUENCIES/MAP DISTANCE**







A Wild type fruit fly (heterozygous for gray body and normal wings) is mated   
with a black fly with vestigial wings.

OFFSPRING:   
778- wild type  
785- black-vestigial  
158- black- normal wings  
162- gray body-vestigial wings

What is the recombination frequency between these genes?  
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A Wild type fruit fly (heterozygous for gray body and red eyes) is mated with a  
 black fly with purple eyes.

OFFSPRING:   
721- gray body/red eyes  
751- black body/purple eyes  
49- gray body/purple eyes  
45- black body/red-eyes

What is the recombination frequency between these genes?  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A Wild type fruit fly (heterozygous for normal bristles and red eyes) is mated with   
a spineless bristle fly with sepia eyes.

OFFSPRING:   
648- normal bristles/red eyes  
681- spineless bristles/sepia eyes  
72- normal bristles/sepia eyes  
83- spineless bristles/red-eyes

What is the recombination frequency between these genes?

Determine the sequence of genes along a chromosome based on the   
following recombination frequencies

A-C 20%   
A-D 10%  
B-C 15%  
B-D 5%

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Determine the sequence of genes along a chromosome based on the   
following recombination frequencies

A-C 10%   
A-D 30%  
B-C 24%  
B-D 16%

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Determine the sequence of genes along a chromosome based on the   
following recombination frequencies

A-B 8%  
A-C 28%   
A-D 25%  
B-C 20%  
B-D 33%

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