

**Bozeman Science: MENDELIAN GENETICS**  
(<http://www.bozemanscience.com/029-mendelian-genetics>)

1) Complete the Punnett Square below for the following cross: **Pp x Pp**


2) The Law of Segregation explains that the odds of inheriting “P” vs. “p” from a parent (whose genotype is Pp) is: \_\_\_\_\_

3) Independent assortment means that genes \_\_\_\_\_.

**Practice Problems:**

1) A coin is flipped four times and comes up heads each time. What is the probability that the next coin flip will come up heads?

**Round (R) is dominant to wrinkled (r). Yellow (Y) is dominant to green (y).**

2) Classify the following as heterozygous or homozygous:

RR: \_\_\_\_\_ Rr: \_\_\_\_\_ yy: \_\_\_\_\_

YyRR: \_\_\_\_\_

3) What is the phenotype of the following:

Yy: \_\_\_\_\_ Rr: \_\_\_\_\_ yy: \_\_\_\_\_

YyRr: \_\_\_\_\_

4) What is the probability of Rr x Rr producing wrinkled seeds? \_\_\_\_\_


5) What is the probability of  $Yy \times yy$  producing green seeds? \_\_\_\_\_


6) What is the probability that  $RrYy \times RRYy$  would produce  $RrYy$ ? \_\_\_\_\_



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**DISEASE:**

4) What happens to an individual who has Huntington's Disease? \_\_\_\_\_

5) Is Huntington's Disease dominant or recessive? \_\_\_\_\_

6) What are some of the ethical / moral issues that arise as a result of developing a test for Huntington's Disease?

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