Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_ Per. \_\_\_\_

 **Word Problems Using Punnett Squares**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B | B |  | B | B |  | B | b |  | B | b |
| b |   |   | B |   |   | B |   |   | b |   |   |
| b |   |   |  b |   |   | b |   |   | b |   |   |

 **1 2 3 4**

 **B = Black b = White**

A black mouse was crossed with a white mouse. The results were 250 black mice and 125 white mice for offspring.

Which Punnett square best shows the two parents? \_\_\_\_\_\_\_\_\_\_\_\_

A black mouse was crossed with a black mouse. The results were 302 black mice and 111 white mice for offspring.

Which Punnett square best shows the two parents? \_\_\_\_\_\_\_\_\_\_\_\_

A black mouse was crossed with a white mouse. The results were 408 black mice and zero white mice for offspring.

Which Punnett square best shows the two parents? \_\_\_\_\_\_\_\_\_\_\_\_

A black mouse was crossed with a black mouse. The results were 206 black mice and zero white mice for offspring.

Which Punnett square best shows the two parents? \_\_\_\_\_\_\_\_\_\_\_\_

Use: **B = Black fur b = White fur**  (Answer questions 1-6)

1. Which color is dominant, black or white? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write a PURE gene pair. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the PHENOTYPE of Bb? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the GENOTYPE of bb? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Write the GENE PAIR for hybrid black fur. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Can hybrid white fur be written as a gene pair? Yes or no? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Complete a Punnett square and answer the following questions. (Incomplete Dominance)

Use: **RR = Red flowers WW = White flowers RW = Pink flowers**

 **Cross a male white plant with a female pink plant.**

|  |  |
| --- | --- |
|   |   |
|   |   |

1. How many pure red offspring are there? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many white offspring are there? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What fraction of offspring will be pink? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. If there were 100 offspring produced as a result of this cross, how many of them

 would you predict would be white? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_