

Solve each problem and show all your work:

1. In fruit flies, long wings are dominant to short wings. If a male fruit fly with heterozygous long wings is mated with a short winged female, what will the offspring look like? ((Show all 5 parts: 1. Key 2. Equation 3. Punnett Square 4. Genotype 5. Phenotype):

= Long Wings

_____ x _____

Genotype Phenotype

= short Wings

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2. If horned cattle are dominant to non-horned cattle, what would the calves look like if a non-horned bull is bred with a homozygous horned female?

= Horns

_____ X _____

= Non-Horns

Genotype Phenotype

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3. If a rough coat is dominant to a smooth coat in Schnauzers, what would the offspring look like if a homozygous rough coat female is bred with a heterozygous rough coat male?

= Rough Coat

_____ X _____

Genotype Phenotype

= Smooth Coat

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7. In polar bears, short whiskers are dominant to long whiskers. If a homozygous short whiskered male is mated with a long whiskered female, what would the cubs look like?

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|------------------|-------|---|-------|----------|-----------|
| = Short Whiskers | _____ | X | _____ | | |
| = Long Whiskers | | | | Genotype | Phenotype |
| | | | | | |
| | | | | | |

8. If the trait long tail is dominant to short tail, and a long tailed male is bred with a long tailed female, and their offspring have: 3 long tailed and 1 short tailed. What are the genotypes of the whole family?

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|--------------|-------|---|-------|----------|-----------|
| = Long Tail | _____ | X | _____ | | |
| = Short Tail | | | | Genotype | Phenotype |
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