Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

Simple Dominant/Recessive Crosses

**Instructions:** *Use Punnett Squares to answer the questions below.*

1. Having finger hair on the second or third joint of your fingers is a dominant trait. If two parents are both homozygous dominant for this trait, what is the chance they could produce a child that has this trait?

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2. Same trait as #1, what are the chances that children of these parents would not have hair on their fingers?

3. Can you roll your tongue? Tongue rolling and tongue flipping are both dominant traits. At least one dominant gene is needed to express these traits. Can two heterozygous tongue rollers produce any children that cannot roll their tongues?

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4. What is the probability of a woman who is heterozygous for tongue rolling and a man who is recessive for the trait producing any tongue rolling children?

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5. In pea plants, round seed shape is dominant to wrinkled. If a person wanted to produce round seeds, what are the genotypes that should be crossed?

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6. Do your ears hang low…? Having unattached earlobes is dominant over attached earlobes. What is the probability that two attached eared parents produce a child who has hanging lobes?

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7. Same trait as #6, can two parents who have hanging lobes have a child who has attached lobes? What must the parents’ genotypes be?

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8. Same trait as #6, can two parents who have hanging lobes have only children who have hanging lobes? What must the parents’ genotypes be?

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9. Huntington’s Disease is a dominant genetic disease which has no cure at this time. The disease causes slow deterioration of the body and eventually death. If a boy’s father has Huntington’s Disease (heterozygous), but the mother is normal, what is the chance that the boy will develop this lethal disease?