

Name: _____ Period: _____ Date: _____

Determining Genotypes Worksheet

Part I: Determining the correct letter to use.

Directions: Read the given statement and determine the letter that should be used to represent each trait.

- Unattached ear lobes are dominant to attached ear lobes. (Use U to represent unattached ear lobes).
D: _____ R: _____
- Tall plants are dominant to short plants. (Use T to represent tall plants)
D: _____ R: _____
- Freckles are dominant to non-freckles. (Use K to represent freckles).
D: _____ R: _____
- Normal vision is dominant to nearsightedness. (Use V to represent normal vision).
D: _____ R: _____
- Widow's peak is dominant to non-widow's peak. (Use W to represent widow's peak).
D: _____ R: _____
- Color vision is dominant to colorblindness. (Use C to represent color vision)
D: _____ R: _____
- Tongue rolling is dominant to non-tongue rolling. (Use R to represent tongue rolling).
D: _____ R: _____
- Dimples are dominant to non-dimples. (Use D to represent dimples).
D: _____ R: _____
- Brown eyes are dominant to blue eyes. (Use B to represent brown eyes).
D: _____ R: _____
- Brown eyes are dominant to green eyes. (Use g to represent green eyes).
D: _____ R: _____

Part II: Determining the correct allele combination.

Directions: Read the given statement & determine the allele combination for each parent or organism.

- Paul's mom is a purebred for freckles. Paul's dad is a hybrid for freckles.
Mom: _____ Dad: _____
- Rachel's mom is hybrid for widow's peak. Rachel's dad doesn't have a widow's peak.
Mom: _____ Dad: _____
- Luke's ears are attached. Luke's mom's ears are unattached while his dad's are attached.
Mom: _____ Dad: _____
- One plant is homozygous tall. The other plant is heterozygous tall.
Plant 1: _____ Plant 2: _____
- Michael's parents are both homozygous for nearsightedness.
Mom: _____ Dad: _____
- David's father is a homozygous tongue roller while his mom is a homozygous non-tongue roller.
Mom: _____ Dad: _____
- Sarah has dimples. Sarah's mom does not but her dad is heterozygous for dimples.
Mom: _____ Dad: _____
- Lawrence's dad was diagnosed with colorblindness. Lawrence's mom is hybrid for colorblindness.
Mom: _____ Dad: _____
- Seth has blue eyes. His mother also has blue eyes. His dad has brown eyes.
Mom: _____ Dad: _____
- Louis has green eyes. Louis' mom also has green eyes as well as his sister. However, Louis' dad is a hybrid for brown eyes.
Mom: _____ Dad: _____

Part III: Completing the Punnett Square

Directions: Complete the Punnett squares that go with each of the last 10 examples.

21.

22.

23.

24.

25.

26.

27.

28.

29.

30.

31. What is the likelihood that children in problem 21 will have a Kk allele combination?

32. In problem 22, what % of the offspring will not have a widow's peak?

33. In how many boxes did you get the Uu allele combination for problem 23?

34. What is the likelihood that offspring in problem 24 will have a TT allele combination?

35. In problem 25, what % are nearsighted?

36. What % of offspring will be able to roll their tongue in problem 26?

37. What % of offspring in problem 27 will not have dimples?

38. In how many boxes in did you get an allele combination for color vision in problem 28?

39. In problem 29, what % of the offspring will have blue eyes?

40. What are all the possible phenotypes for the children in problem 30?