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

Period \_\_\_\_\_\_\_\_

Genetics Practice: Blood Types

1. Write all of the possible genotypes for these blood types.

 A= B=

 AB= O=

2. A woman sues a man for child support. She has type A blood, her child has type O, and the man has type B. Could the man be the father? Explain.

3. A wealthy, elderly couple dies together in an accident. Soon a man shows up to claim their fortune, contending that he is their only son, who ran away from home when he was a boy. Other relatives dispute his claim. Hospital records show that the deceased couple had blood types AB and O. The claimant to the fortune is type O. Do you think the claimant is an imposter? Explain.

4. A man has type A blood, and his wife has type B blood. A physician types the blood of their four children and is amazed to find one of each of the four blood types present among them (A, AB, B, and O.) He is not familiar with genetics and calls upon you to explain how such a thing could happen. What would you tell him?

5. Two people with type O blood have three children. How many of those children would be expected to be type O?

6. Why is a person with type O blood called a “universal donor?”

7. Why is a person with type AB blood called a “universal acceptor?”

8. Explain why it is impossible for a man with AB blood type to have a child with O type. Use a punnett square to show your answer.

9. A woman with A blood type has two children. One child has type O and the other has type B blood. What type of blood must the father have? Also give the genotypes of the mother and the children.

10. A man with type AB blood is married to a woman with type O blood. They have two biological children and one adopted child. The children’s blood types are: Jill (type A,) Bill (type B,) and Will (type O.) Which child was adopted? How do you know?

11. Suppose 2 newborn babies were mixed up at the hospital. From the following blood types, determine which baby belongs to which parents. Also determine the genotypes of each of the six people.

 Baby 1: Type O Baby 2: Type A

 Mr. Evans: Type B \_\_\_\_\_\_\_\_\_\_\_\_

 Mrs. Evans: Type B \_\_\_\_\_\_\_\_\_\_\_\_

 Their baby is \_\_\_\_\_\_\_\_\_\_\_\_

 Baby’s genotype: \_\_\_\_\_\_\_\_\_\_\_\_

 Mr. Brown: Type B \_\_\_\_\_\_\_\_\_\_\_\_

 Mrs. Brown: Type AB \_\_\_\_\_\_\_\_\_\_\_\_

 Their baby is \_\_\_\_\_\_\_\_\_\_\_\_

 Baby’s genotype: \_\_\_\_\_\_\_\_\_\_\_\_