**Math, Genes, and You**

Week 3, Day 1: Intro to Pedigrees

**Plan for today**

Genetics news

Group/class activity: Problem set 2

Lecture: Pedigrees

**Definitions**

**Pedigree** – A record of individuals’ descent and genetic relationships. Also called a **family tree**.

**Male** – square



**Female** – circle



**Unspecified sex** – diamond



**Parent-child relationship**



**Full Siblings** – A pair of siblings that share both parents



**Nuclear family** – A family consisting of parents, children, and siblings



**Half siblings** – A pair of siblings that share only one parent



**Step siblings** – A pair of siblings who do not share a biological parent



**Identical twins** – Twins who have an exact copy of each other’s DNA



**Fraternal twins** – Twins who share as much DNA as full siblings



**First cousins** – Relatives who share a pair of grandparents



**Grandparent-grandchild relationship**



**Avuncular relationship** – Uncle-nephew, uncle-niece, aunt-nephew, aunt-niece



**Examples**

**Example 1:** How many sibling pairs are in the following pedigree? **4**



**Example 2:** How many nuclear families are in the following pedigree? **3**



**Example 3:** How many first cousin relationships are in the following pedigree? **6**

