

Name: _____ Dr. Reichler's Bio 325 mwf 12-1pm Fall 2007 Quiz 11/30

- 1) How could PCR be used to differentiate between a haploid or diploid cell? Would a single PCR reaction be sufficient?
- 2) Which occurs first during meiosis, crossing-over or random assortment?
- 3) Would having fewer chromosomes lead to more or less genetic diversity in offspring?
- 4) Are the sister chromatids that line up in the second cell division of meiosis identical?
- 5) What can explain the disappearance in one generation and later reappearance in a subsequent generation of a trait?
- 6) Can one parent with A blood type and another parent with B blood type have an offspring with O blood type?
- 7) If liking chocolate is coded for by a gene on the X chromosome with not liking chocolate as the recessive allele, and a woman who dislikes chocolate mates with a man who likes chocolate, and they are having fraternal male/female twins, what is the probability for each of their offspring to like chocolate?
- 8) Given the information in #7, is liking or disliking chocolate more common in humans?
- 9) What do the changes in male:female demographics at different ages since 1950 say about the likely cause of the change in male:female ratio as people get older?
- 10) A brother and a sister have both inherited a mutation in their mitochondrial DNA. Does their mother or father have this mutation?
- 11) What are two reasons that females provide more than 50% of their DNA to their offspring?
- 12) Can genes located on different chromosomes have less than 50% recombination?
- 13) Which genes are closer to each other? A and B that have 34% recombination or C and D that have 22% recombination?