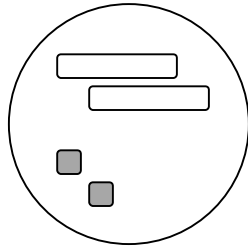


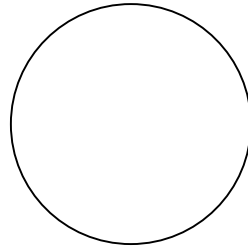
Name _____
 Lab (circle): Tu or Th

Assignment #2 - revised (20 points)

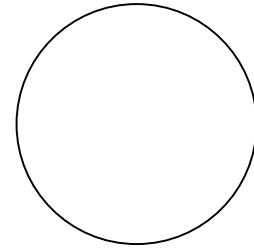
1. The fungus *Penicillium* has 2 pairs of chromosomes (shown in the interphase “cell” below). Draw the chromosomes in a daughter cell after mitosis (middle circle) and meiosis (circle on right). Below each “cell” note whether it is diploid or haploid. (4 pts)



Interphase cell



After mitosis



After meiosis

2. Complete the following table to compare mitosis and meiosis. (3 pts)

	Mitosis	Meiosis
Number of chromosome duplications		
Number of cell divisions		
Functions performed in the human body		

3. Diagram the cell cycle and label the different phases (interphase, mitosis, G₁, S phase and G₂). Describe what happens at each stage. (3 pts)

4. In humans, pointed eyebrows (E) are dominant over smooth eyebrows (e). Mary's father has pointed eyebrows but she and her mother have smooth eyebrows. (4 pts)
- What is Mary's genotype?
 - What is the father's genotype?
 - What are the chances that Mary's siblings will have pointed eyebrows? Use a Punnet square to get the answer



Caution: Sex linked traits

5. If a woman is color-blind, is her father normal or color-blind? Explain why. (2 pts)
6. In fruit flies, white eye color (r) is a recessive sex-linked trait. If a white-eyed female is mated with a red-eyed (R) male, what color of eyes will the offspring have? (4 pts)
- Genotype of female?
 - Genotype of male?
 - Female offspring?
 - Male offspring?