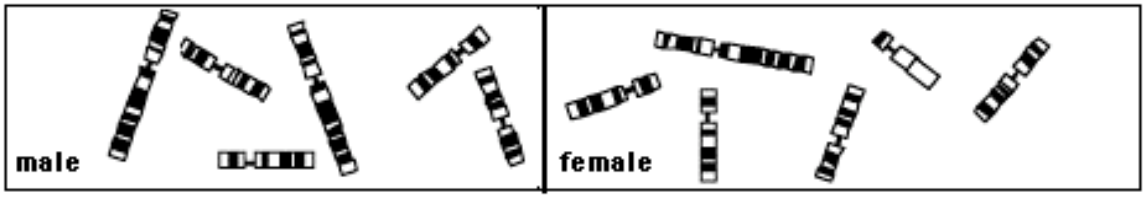
Biology 341 Name (print clearly) _____
Introduction to Genetics
Quiz 3
13/14 October 2004 Grade (points correct): _____

1. (2 points) The following are somatic mitotic late prophase cells obtained from a strange animal. Draw and label arrows showing the X- and Y-chromosomes



2. (4 points) Here are some mutations found in Drosophila melanogaster. The chromosome locations are given

X-chromosome	Chromosome-2	Chromosome-3	chromosome-4
w = white eyes	bw = brown eyes	h = hairy body	sh = shaven hairs

Give the genotypes for the P and F-1 generations for the crosses given below. Use the +/letter and the above and below line systems. Be sure to follow the concept of using only the partial genotype; that is, use symbols of only those genes and chromosomes used in a particular question. Also, you may use the letter Y for the Y-chromosome, where it is required.

a. A true breeding white eyed male is crossed with a true breeding wild eyed female.

b. A true breeding hairy male is crossed with a true breeding brown eye female.

3. (1 point) In Drosophila the sex of an individual with three sets of autosomes and the sex chromosomes: XX is _____.

4. (2 points) In humans person has three X chromosomes and no Y-chromosome in his/her normal somatic cells.

a. The number of x-chromatin bodies will be _____.

b. The sex of the person is: _____

5. (1 point) The x-chromatin body is an example of gene silencing. Briefly explain what we mean by the use of the term gene silencing in this context.