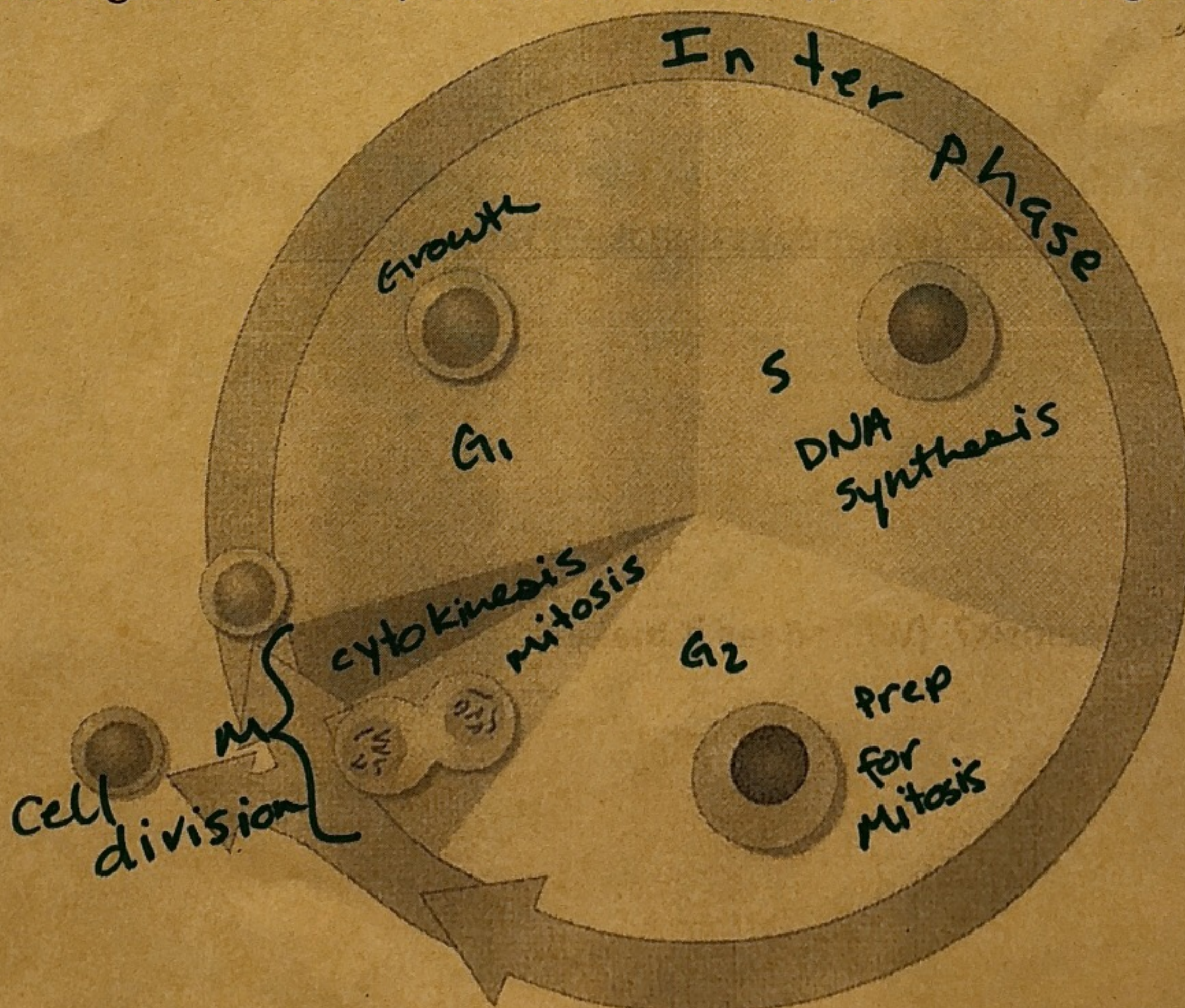


4. Fill in the chart below:

	Mitosis	Meiosis
Number of chromosomal duplications	1	1
Number of cell divisions	1	2
Number of daughter cells produced	2	4
Number of chromosomes in the daughter cells	46	23
How the chromosomes line up during metaphase	single file	in pairs
Genetic relationship of the daughter cells to the parent cell	identical	unique
Functions performed in the human body	growth/repair	make gametes

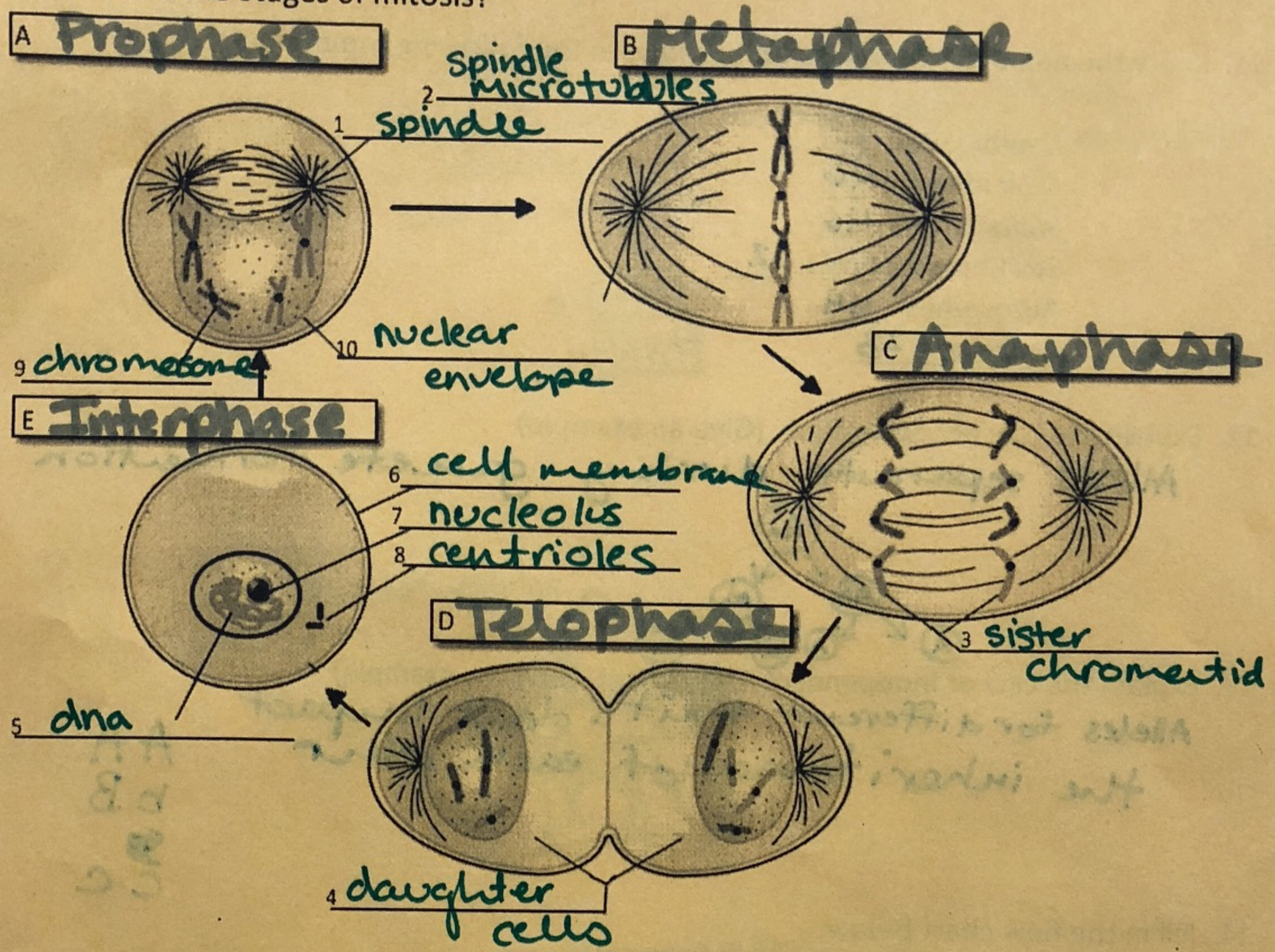
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5. Label the stages of the cell cycle. Describe what happens in each stage.



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6. What are the stages of mitosis?



7. What key events happen in each stage of mitosis?

P - chromosomes are Present
 M - move to middle
 A - move apart
 T - two nucleus

8. Describe how cancer develops. How does this relate to mitosis? Make sure to use the term density-dependent inhibition.

cells are supposed to stop growing when they touch this is called density-dependent inhibition. Cancer cells don't do this

9. What is nondisjunction? What is the result of nondisjunction occurring?

when chromosomes don't separate right during meiosis. Causes extra / missing chromosomes they keep dividing

10. Describe the following chromosomal structural abnormalities.

Deletion-

Duplication-

Translocation-

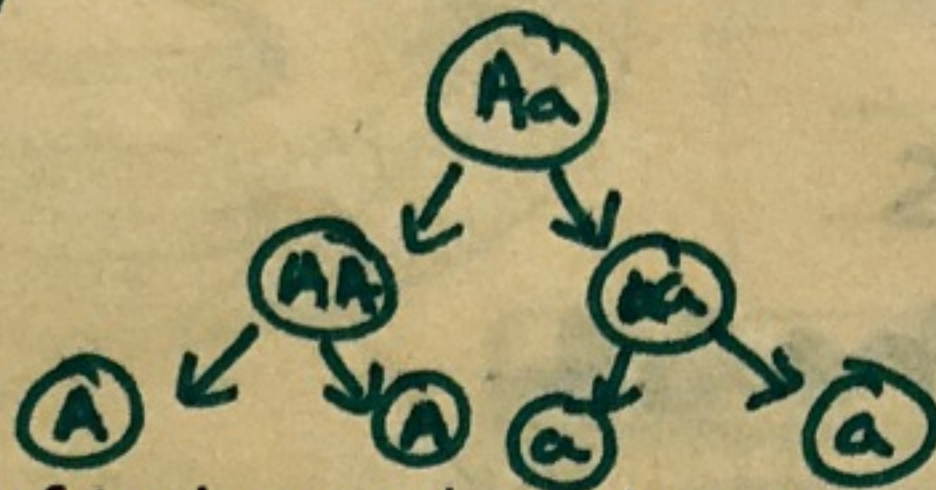
Inversion-

11. Know the number of *human chromosomes* in the following components.

Haploid Cell 23
 Diploid Cell 46
 Somatic Cell 46
 Sex Chromosomes 2
 Autosomes 44
 Gametes 23

12. Explain the Law of Segregation. (Give an example)

Alleles separate during gamete formation

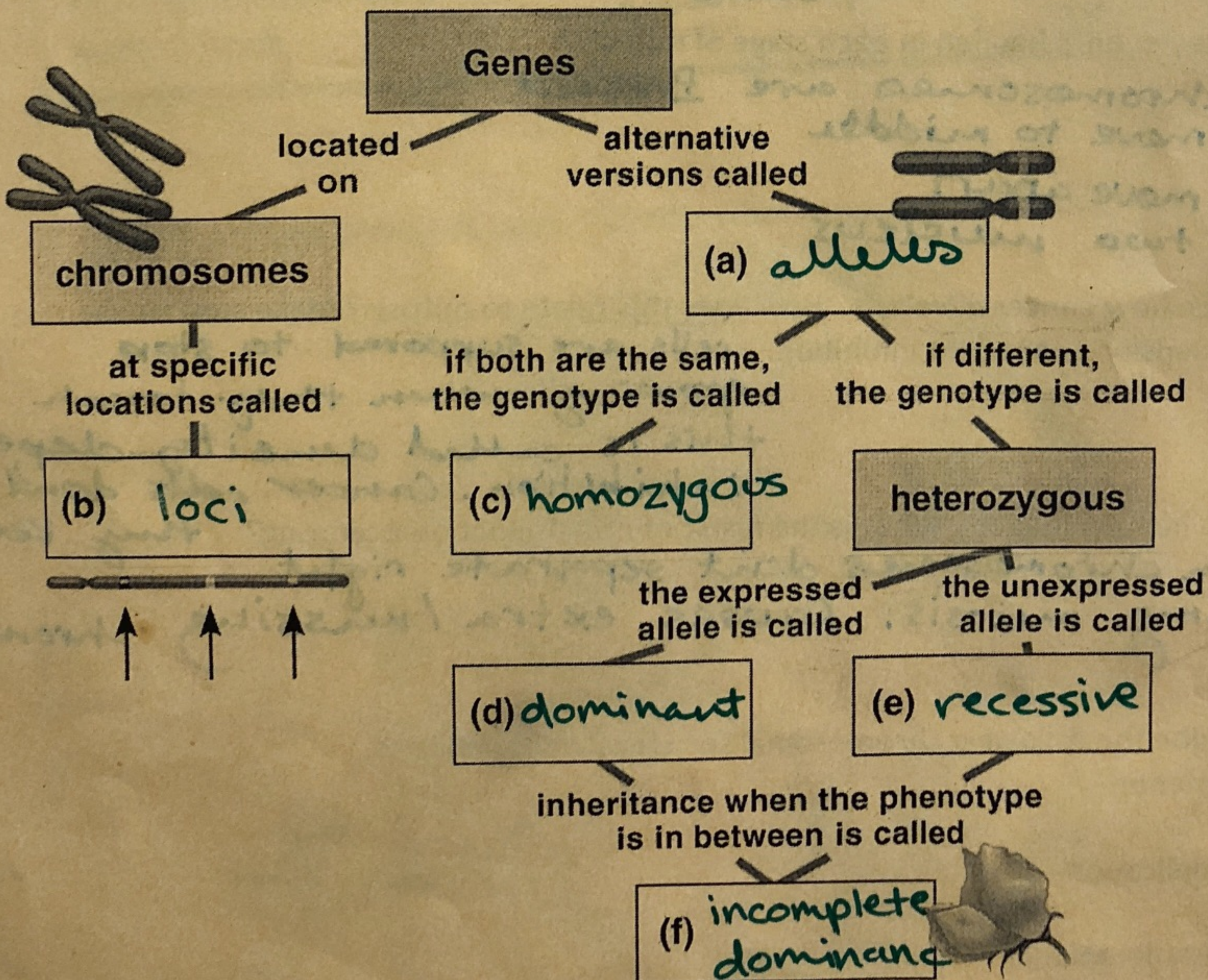


13. Explain the Law of Independent Assortment. (Give an example)

Alleles for different traits don't impact the inheritance of each other

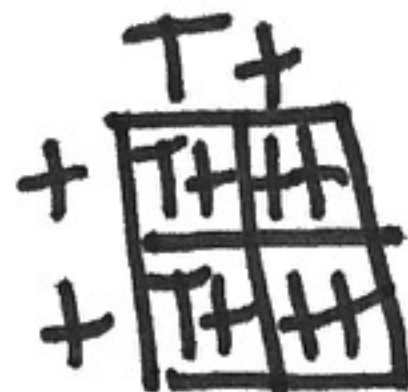
A A
 b B
 c c

14. Fill in the flow chart below:



15. Punnett Squares

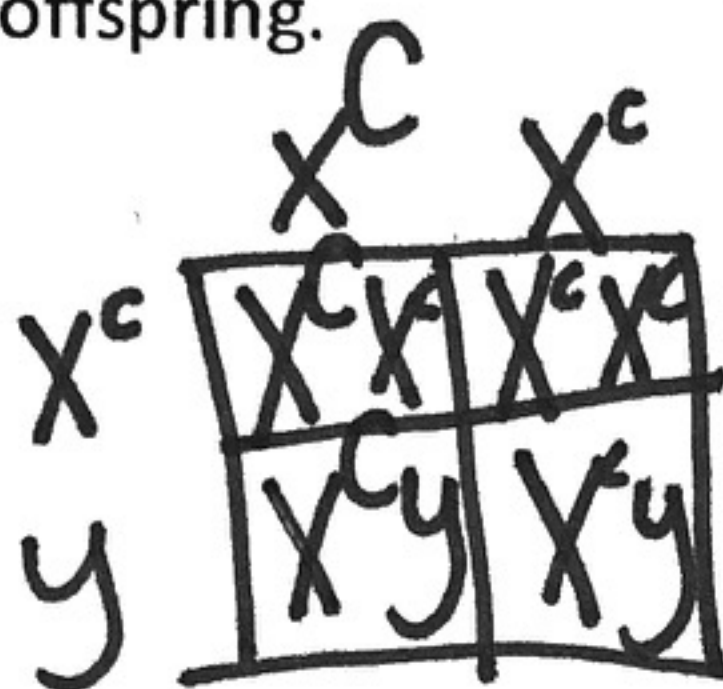
Be able to construct, complete, and read (probabilities and vocab) a Punnett Square. Tall (T) is dominant in plants; short (t) is recessive. Cross a heterozygous male with a homozygous recessive female.



16. Sex-Linked Crosses:

Circle the "affected" offspring.

Cross $X^C X^c \times X^c Y$



17. Why are sex-linked traits more common in males?

males only have 1 X, so if they get the allele then they have it

18. What are the following?

Give an example of each.

- Incomplete Dominance- hybrids are a blend. $Rr =$ pink flower
- Codominance- dominant together $I^A I^B =$ AB blood
- Multiple Alleles- more than 2 letter types I^A, I^B, i
- Polygenic Traits- 1 trait coded by many genes. skin color
- Pleiotropic Traits- 1 gene codes for many traits

19. Draw and label homologous chromosomes.

