

Name: \_\_\_\_\_

# Chapter 13

Complete the crossword below

The crossword puzzle grid consists of 33 numbered starting points for words:

- 1: Down, 10 cells
- 2: Across, 5 cells
- 3: Across, 5 cells
- 4: Down, 4 cells
- 5: Across, 2 cells
- 6: Across, 10 cells
- 7: Across, 10 cells
- 8: Across, 10 cells
- 9: Down, 10 cells
- 10: Across, 8 cells
- 11: Down, 8 cells
- 12: Down, 8 cells
- 13: Across, 10 cells
- 14: Across, 10 cells
- 15: Down, 6 cells
- 16: Across, 14 cells
- 17: Down, 4 cells
- 18: Down, 8 cells
- 19: Down, 8 cells
- 20: Across, 3 cells
- 21: Across, 10 cells
- 22: Down, 8 cells
- 23: Down, 8 cells
- 24: Across, 10 cells
- 25: Across, 4 cells
- 26: Across, 10 cells
- 27: Down, 8 cells
- 28: Down, 2 cells
- 29: Across, 14 cells
- 30: Across, 14 cells
- 31: Across, 4 cells
- 32: Across, 8 cells
- 33: Across, 8 cells

homologs 64 trillion anaphase karyotype cytokinesis crossing over metaphase

anaphase klinefelter same turner sister chromatids down chromatids independent

assortment centromere prometaphase half telophase mitosis meiosis

chromosomes 8 million random fertilization chiasma haploid increases 46 four

recombinant two prophase synapsis mutation sister chromatids

### Across

2. After Meiosis I, there are two \_\_\_\_\_ (ploidy level) cells that have formed.
5. Humans have \_\_\_\_\_ chromosomes.
6. Joint point where the two sister chromatids meet.
7. \_\_\_\_\_ is the pairing of homologous chromosomes (forms a tetrad) during Prophase I.
8. In Meiosis I, \_\_\_\_\_ line up on the metaphase plate and separate during anaphase I.
10. During \_\_\_\_\_ in Meiosis I, homologous chromosomes separate by having the dyads pulled toward the opposite ends of the cell.
13. \_\_\_\_\_ syndrome is due to an extra chromosome and leads to an incomplete development of testicles.
14. Meiosis I separates the \_\_\_\_\_.
16. In Meiosis II, \_\_\_\_\_ line up on the metaphase plate, and separate during anaphase II.
20. \_\_\_\_\_ syndrome is due to an extra chromosome and leads to delayed development.
21. \_\_\_\_\_ is the constant, random production of modified genes by changing DNA sequences.
24. During \_\_\_\_\_ in Meiosis I, tetrads line up at the middle of the cell.
25. The number of chromosomes in the daughter cells compared to the parent cells in mitosis are (same/half)?
26. \_\_\_\_\_ syndrome is due to missing chromosomes.
29. \_\_\_\_\_ is due to a random sperm entering a particular egg.
31. The number of chromosomes in the daughter cells compared to the parent cells in meiosis are (same/half)?
32. \_\_\_\_\_ is the site where crossing over occurs.
33. \_\_\_\_\_ generates all the somatic cells in the body.

### Down

1. \_\_\_\_\_ generates the gametic cells in the gonads.
3. Meiosis \_\_\_\_\_ genetic variation in populations of organisms.
4. Any 2 humans will produce a zygote with any of \_\_\_\_\_ diploid combinations.
9. \_\_\_\_\_ is the random orientation of homologous chromosome pairs at mid-cell during Metaphase I.
11. \_\_\_\_\_ is the genetic rearrangement between non-sister chromatids.
12. A stage in mitosis and meiosis during which the nuclear envelope breaks down and microtubules attach to kinetochores.
15. The final stage in mitosis and meiosis I & II during which daughter chromosomes have separated and new nuclear envelopes begin to form around each set of chromosomes.
17. \_\_\_\_\_ is the number of daughter cells produced during mitosis.
18. An organisms \_\_\_\_\_ is the various shapes and number of chromosomes that the organism has.
19. Crossing over produces \_\_\_\_\_ chromosomes during Prophase I.
22. Each gamete has \_\_\_\_\_ possible combinations.
23. Division of the cytoplasm to form daughter cells.
27. Meiosis II separates the \_\_\_\_\_.
28. The first stage in mitosis and meiosis I & II during which chromosomes become visible and the spindle apparatus forms.
30. \_\_\_\_\_ is the number of daughter cells produced during meiosis.