Number of Chromosomes Worksheet

1. What is the definition of haploid?
2. What is the definition of diploid?

The data below shows the number of chromosomes for *somatic* (body) cells.

|  |  |  |  |
| --- | --- | --- | --- |
| **Organism** | **# of Chromosomes** | **Organism** | **# of Chromosomes** |
| Mosquito | 6 | Pea Plant | 14 |
| Housefly | 12 | Corn Plant | 20 |
| Frog | 26 | Human | 46 |
| Orangutan | 48 | Dog | 78 |

1. What is the number of chromosomes for a diploid human cell?
2. What is the number of chromosomes for a haploid pea plant cell?
3. What is the number of chromosomes for a diploid orangutan cell?
4. What is the number of chromosomes for a diploid dog cell?
5. What is the number of chromosomes in a human gamete?
6. What is the number of chromosomes in a diploid frog cell?
7. If a frog cell had 26 chromosomes, would it be a haploid or a diploid cell?
8. If a housefly cell had 6 chromosomes, would that cell be a haploid or diploid cell?
9. If an Orangutan cell had 24 chromosomes, would that cell be a haploid or diploid cell?
10. If a pea plant cell had 14 chromosomes, would that cell be a haploid or diploid cell?
11. If a mosquito cell had 3 chromosomes, would that cell be a gamete or somatic cell?
12. If a corn cell had 20 chromosomes, would that cell be a gamete or somatic cell?
13. If a housefly cell had 12 chromosomes, would that cell be a gamete or somatic cell?
14. If a pea plant cell had 14 chromosomes, would that cell be a gamete or somatic cell?
15. If a dog cell had 78 chromosomes, would that cell be a gamete or somatic cell?
16. If a human cell had 23 chromosomes, would that cell be a gamete or somatic cell?
17. Why is the chromosome number in diploid cells always an even number?
18. What are the two types of gametes?
19. What is the process called when the fusion of gametes create a zygote?
20. Is a zygote a haploid or diploid cell?
21. Why is it important that gamete cells have only one set of chromosomes?
22. Draw a chromosome and label the sister chromatids and the centromere below
23. Why does a chromosome have two sister chromatids?
24. Two sets of the chromosomes of the same type are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ chromosomes.
25. Diploid cells have one set of chromosomes that come from the mom’s \_\_\_\_\_\_\_\_\_\_\_\_\_ and the other set comes from the dad’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Determine if the cells are haploid or diploid.*

1. In the human body, cells in the nervous system are haploid or diploid.
2. In the human body, gamete cells are haploid or diploid.
3. In the human body, egg cells are haploid or diploid.
4. In the human body, liver cells are haploid or diploid.
5. In the human body, bone cells are haploid or diploid.
6. In the human body, skin cells are haploid or diploid.
7. In the human body, muscle cells are haploid or diploid.
8. In the human body, sperm cells are haploid or diploid.
9. In the human body, somatic cells are haploid or diploid.
10. In the human body, body cells are haploid or diploid.
11. In the human body, ova cells are haploid or diploid.