Amoeba Sisters | Video Recap

NAME: _____

Amoeba Sisters Video Recap: *Chromosome Numbers Before and After Mitosis and Meiosis (UPDATED)*

1. How does this cartoon illustrate **interphase**?

_____

_____

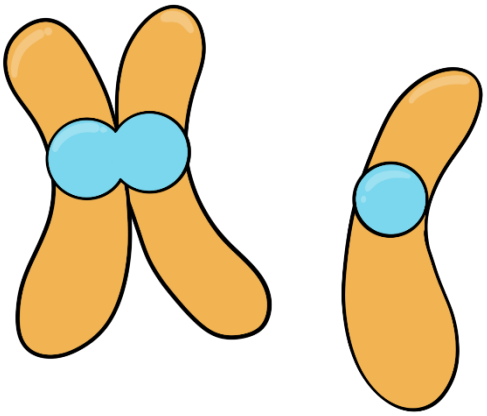
_____

_____

2. How many times does interphase occur before **mitosis**? _____

3. How many times does interphase occur before **meiosis**? _____

4. Both images on the right show <u>one</u> **chromosome**.
Explain how they differ. In your explanation, use the term: **chromatid**.



_____

_____

_____

_____

5. Which chromosome – the chromosome on the left or the chromosome on the right – is likely the result *after* interphase? How do you know?

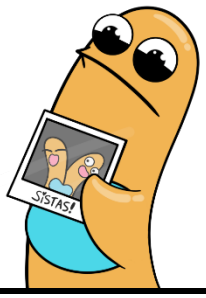
_____

_____

6. TRUE or FALSE:

_____

When a **chromatid** is no longer attached to another chromatid, it can be called a chromosome.



7. TRUE or FALSE

_____

In most human cells, after interphase, a cell goes from 46 chromosomes to 92 chromosomes.

8. Explain how the terms **haploid** and **diploid** relate to chromosomes.

_____

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9. The two tables below are using the general number of chromosomes in humans. Please complete the blanks of both tables. You can use this to help you on #10.

Chromosome Numbers Before and After Mitosis

@amoebasisters	Before Interphase	After Interphase	Starting Mitosis	After Mitosis
Chromosomes Per Cell	46			46
Chromatids Per Cell	46*			46*
Chromosome Model	)	X	X	)
Cell haploid or diploid?	Diploid			Diploid

Chromosome Numbers Before and After Meiosis

@amoebasisters	Before Interphase	After Interphase	After Meiosis I	After Meiosis II
Chromosomes Per Cell	46			23
Chromatids Per Cell	46*			23*
Chromosome Model	)	X	X	)
Cell haploid or diploid?	Diploid			Haploid

**Remember when chromatids are NOT attached to each other and stand alone, these can be referred to as "chromosomes."*

A type of equine roundworm is an organism with **4 chromosomes**. (Its diploid number is **4**).
You will apply what you know to this scenario!

10. Write how many chromosomes are present on the lines next to each cell for this organism.

11. Illustrate the four chromosomes inside the starting cell on the left and the starting cell on the right of the below diagram. Illustrate the chromosomes in the cells after **interphase**, after **mitosis**, and after **meiosis I** / **meiosis II**.
HINT: Look at the tables you completed above and pay special attention to the "chromosome model" images in the charts as those can help your illustrating. Reminder from video: these are models; chromosomes are not always so condensed.

Before and After Mitosis and Meiosis in a Type of Equine Roundworm