Sister Chromatid Cohesion Control and Aneuploidy

1. Scan through the article and get a rough count (not an exact count) of how many different protein names you can find (anything with an “-ase” on the end or a name like SMC1).
2. What 2 different cellular processes require cohesins?
3. When in mitosis do cohesins begin to release from the arms of sister chromatids? Prophase, metaphase, anaphase, telophase
4. When in mitosis do cohesins release from the centromeres of sister chromatids? Prophase, metaphase, anaphase, telophase
5. When in meiosis do cohesins release from the centromeres of sister chromatids?
6. What enzyme removes cohesins from the centromere?
7. What does “precocious separation” of sister chromatids mean?
8. What happens to the ability of a cell to sort chromatids if cohesins let go too early?
9. What happens to the ability of a cell to sort chromatids if separase is “over expressed”?
10. What could happen to chromosome number if separase fails to work on one chromosome? What could happen to chromosome number if separase fails to work on all chromosomes of a cell?