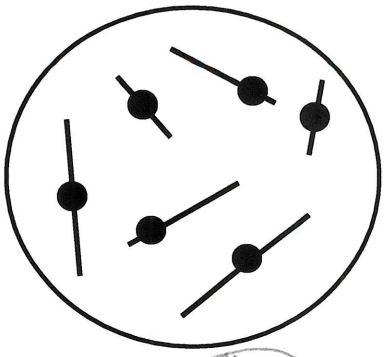
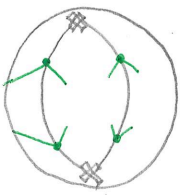
Life Sciences 11: Redemption Quiz Mitosis/Meiosis /12

1. For each of the following questions, draw a cell in the designated phase of mitosis or meiosis.
   Make sure to include spindle fibers. Also, if cells are different, make it clear that they are different.
   a. Haploid cell with 4 chromosomes in anaphase of mitosis (1 point)
   b. 2n=4 cell in metaphase of mitosis (1 point)
   c. Diploid cell with 4 chromosomes in Metaphase I of meiosis (2 points)

2. Below is shown a cell during its interphase (G1) stage. If this cell undergoes meiosis, draw the cell(s) at each of the meiosis stages listed below. Then, write whether each stage is haploid or diploid.
   Note: Show spindle fibers. You DO NOT need to show crossing over.
   (6 points for drawings, 2 points for ploidy)
   a. Prophase I diploid
   b. Metaphase I diploid
   c. After Meiosis I haploid
   d. Metaphase II haploid
   e. Anaphase II
      (Exception: do not write ploidy here)
   f. After Meiosis II haploid

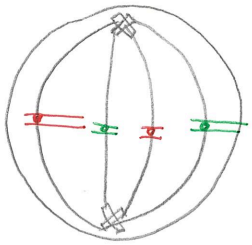


1a)

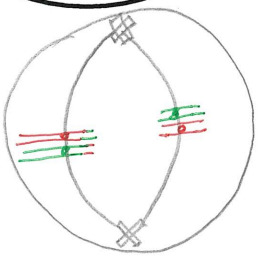


(not a great question)

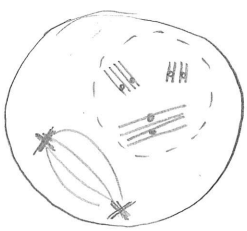
1b)



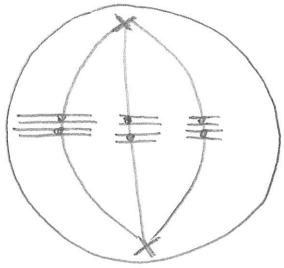
1c)



2a)



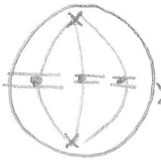
2b)



2c)

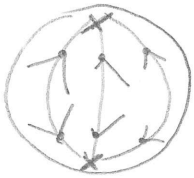
×2

2d)



×2

2e)

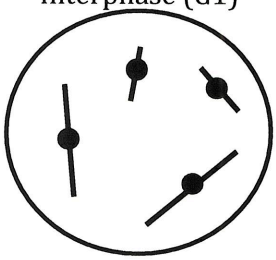
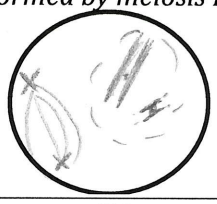
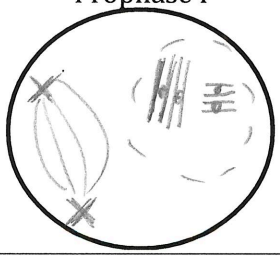
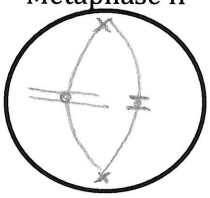
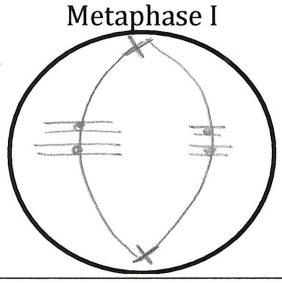
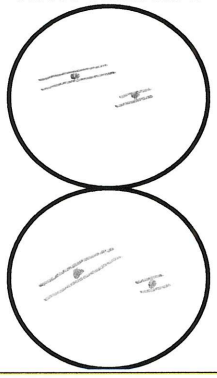
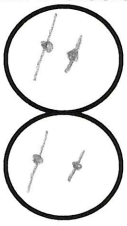


×2

2f)

×4

3. Starting with the cell shown below, draw each of the following stages of meiosis. Then, on the right, write whether that stage is haploid or diploid. (6 points for drawings, 2 points for ploidy)
Note: You do not need to show crossing over.

MEIOSIS I	Haploid or diploid?	MEIOSIS II	Haploid or diploid?
Interphase (G1) 	diploid	Prophase II *(draw ONE of the two cells formed by meiosis I)* 	haploid
⇩		⇩	
Prophase I 	diploid	Metaphase II 	haploid
⇩		⇩	
Metaphase I 	diploid	Anaphase II 	(haploid)
⇩		⇩	
After Meiosis I 	haploid	After Meiosis II 	haploid