

CHAPTER 16	Investigation 16.A: Modelling a Karyotype Answer Key	BLM 16.1.10A
ANSWER KEY		

Answers to Analysis Questions

1. This cell has 46 chromosomes. Therefore the diploid number ($2n$) for this cell is 46, and the haploid number (n) is 23. This is written as $n = 23$.
2. If this were a sperm or an egg cell, there would only be 23 chromosomes present. The chromosome number would be $n = 23$.
3. If the karyotype contains 22 pairs of homologous chromosomes and an X and a Y chromosome, the individual is male. If the karyotype contains 22 pairs of homologous chromosomes and two X chromosomes, the individual is female.

Answer to Conclusion Question

4. It is possible to determine if an individual has a normal number of chromosomes by seeing if there are 22 pairs of homologous chromosomes and either two X chromosomes (female), or an X and a Y chromosome (male). Additional chromosomes to the normal number of 46 would indicate a chromosomal abnormality, as would deletions of part or whole chromosomes.