Traits and Inheritance

Chapter 3 Section 2

A Great Idea (p 62)

Mendel calculated the ratio of dominant traits to _____ traits. He found the ratio to be _____.

Mendel knew from his experiments with _____ plants that there must be _____ sets of instructions for each _____. The first _____ plants carried instructions for both the _____ and _____ trait. Scientists now call these inherited traits _____.

Each parent gives one set of _____ to the offspring. The offspring then has _____ forms of the same gene for each _____ - one from each _____.

The different forms of the gene are known as _____.

Dominant alleles are shown with a _____ letter, while _____ alleles are shown with a _____ letter.

Phenotype (p 62)

Genes affect the _____ of offspring. An organism's appearance is known as _____. In pea plants phenotypes would be _____ or _____ flowers.

For seed color, _____ or _____ seeds are different phenotypes.

Genotype (p 63)

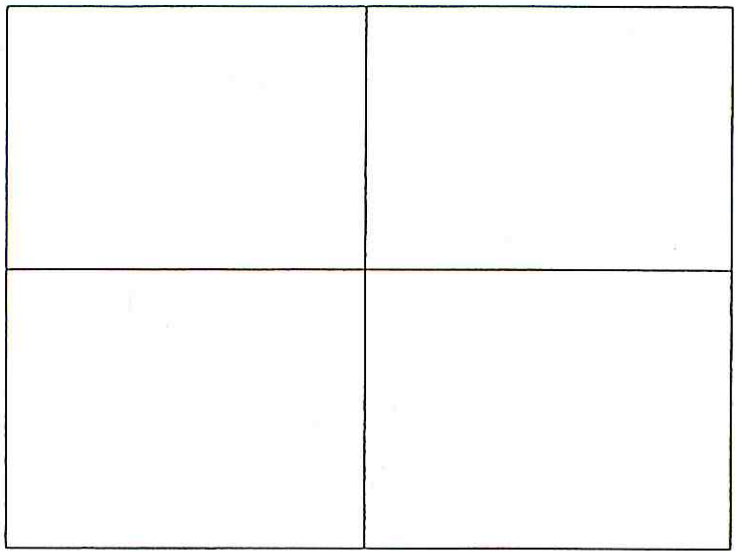
Both inherited alleles together form an organism's _____. A plant with two dominant or two recessive alleles is said to be _____. A plant with the genotype of Pp is said to be _____.

Punnett Squares (p 63)

A _____ square is used to organize all of the possible _____ of offspring of particular _____. Look at Figure 2 on this page. All of the

offspring have the same genotype, namely _____. What color are the flowers going to be? _____ What is the dominant gene in Pp? _____ What is the recessive gene in Pp? _____

Look at figure 3 on page 64. Copy the information from this Punnett square into the space below.



F_2 = PP, Pp, Pp, pp

Use your notes to answer the next few questions.

What is the genotypic ratio? _____

What is the phenotypic ratio? _____

What is the phenotype of the F_2 generation? (This means what are the flower colors) _____

What are the Chances? (p 64)

Each parent has two _____ for each _____. When these alleles are different, as in Pp, offspring are equally likely to receive either _____. Think of a coin toss. There is a _____% chance you will get _____. The chance of receiving one allele or another is as _____as a coin toss.

Probability (p 64)

The mathematical _____ that something will happen is called _____. This is often written as a _____ or _____. If you toss a coin, the probability of tossing tails is _____--you will get tails _____ the _____.

More About Traits (p 66)

Gregor _____ uncovered the _____ principles of how genes are passed on from one _____ to the _____. The more scientists learn about heredity, the more _____ they are finding to Mendel's principles.

Incomplete Dominance (p 66)

Researchers have found that sometimes one _____ is not completely _____ over another. These traits do not blend together, but each allele has its own degree of _____. This is known as _____ _____. One flower that shows this kind of dominance is the _____. Look at figure 5 on this page. When red snapdragon flowers are crossed with white snapdragon flowers, what color are the flowers that result? _____

One Gene, Many Traits (p 66

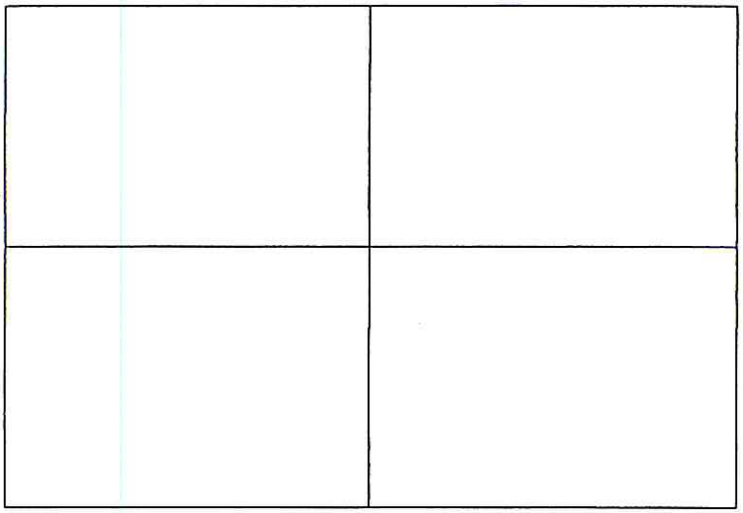
Read the paragraph under this heading. A single gene controls what traits of the tigers pictured here? _____

SECTION REVIEW (p 67) Answer the questions in the space provided.

#1_____

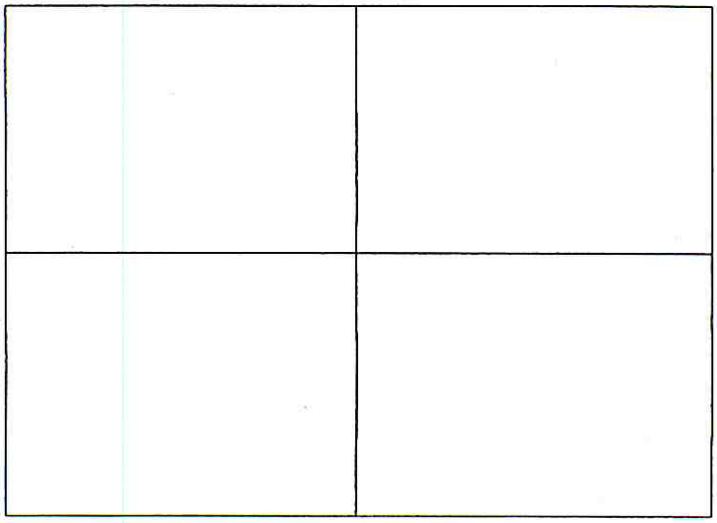
#2_____

#3 Fill in the Punnett square below showing a BB x Bb cross.



Which answer is correct for #3? _____

Do interpreting graphics. Copy the Punnett square information below and fill in the question marks.



#8 _____