**Ch. 10**

Multiple Choice

1. When one object is a specialized version of another object, there is an \_\_\_\_\_\_ between them. Answer: A
2. In an inheritance relationship, the \_\_\_\_\_\_ is the general class. Answer: B
3. In an inheritance relationship, the \_\_\_\_\_\_ is the specialized class. Answer: C
4. Base classes are sometimes called \_\_\_\_\_\_. Answer: D
5. Derived classes are sometimes called \_\_\_\_\_\_. Answer: B
6. The \_\_\_\_\_\_ refers to the base class. Answer: D
7. The term \_\_\_\_\_\_ refers to an object’s ability to take different forms. Answer: C
8. When a derived class method has the same name as a base class method, it is often said that the derived class method \_\_\_\_\_\_ the base class method. Answer: C
9. The \_\_\_\_\_\_ declares that a derived class is allowed to override a method. Answer: C
10. The \_\_\_\_\_\_ declares that this method overrides a method in the base class. Answer:
11. A class that is not intended to be instantiated, but used only as a base class, is called a(n) \_\_\_\_\_\_. Answer: D
12. To declare a class as abstract, you use the \_\_\_\_\_\_ in the class header. Answer: A
13. A regular, non-abstract class is sometimes called a \_\_\_\_\_\_. Answer: C
14. A(n) \_\_\_\_\_\_ is a method that appears in a base class but expects to be overridden in a derived class. Answer: A
15. A(n) \_\_\_\_\_\_ is a property that appears in a base class but expects to be overridden in a derived class. Answer: D
16. \_\_\_\_\_\_ allows a base class reference variable to reference a derived class object. Answer: B

True or False

1. The base class inherits fields, properties, and methods from the derived class. **False**
2. Polymorphism allows a class variable of the base class type to reference objects of either the base class or the derived class types. **True**
3. Properties in a base class cannot be overridden in the same way that methods can be overridden. **True**
4. A base class reference variable can reference an object of any class that is derived from the base class. **True**
5. A statement that tries to use the new operator to instantiate an abstract class will not compile. **True**
6. A class that is not intended to be instantiated, but used only as a base class, is called a concrete class. **True**
7. When an abstract property appears in a class, it must be overridden in any class that is derived from the class. **False**

Short Answer

1. What does a derived class inherit from its base class? **The derived class inherits fields, properties, and methods.**
2. Look at the following code, which is the first line of a class declaration. What is the name of the base class? What is the name of the derived class? Code: ” *class Tiger : Felis ”* **The base class is Felis and the derived class is Tiger**
3. Can methods in the derived class directly access the base class’s private members? **No, they cannot.**
4. When you create an instance of a derived class, which constructor is called first? **The base constructor is called first.**
5. In what kind of situation would you want to use an abstract class instead of a base class? **When the classes are representing an entity that does not have a standard. (like the plane example in the book)**
6. What is the primary difference between an abstract class and a regular class? **An abstract class cannot be instantiated. If you attempt, it will not compile.**
7. Can abstract classes also contain abstract properties? **Yes, they can.**